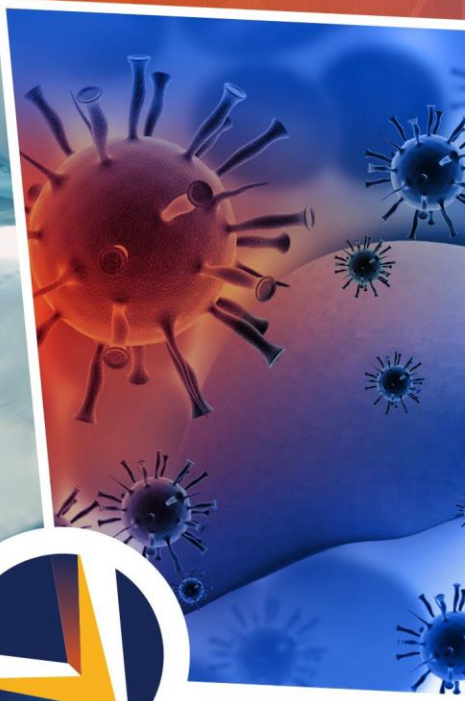
NATIONAL VIRAL HEPATITIS ACTION PLAN

2017 PROGRESS REPORT



The 2017 Viral Hepatitis Progress Report was prepared under the direction of the Office of Infectious Disease and HIV/AIDS Policy (OIDP), Office of the Assistant Secretary for Health (OASH), U.S. Department of Health and Human Services (HHS) under contract #HHSP233201800307G. The plan was developed collaboratively with input from representatives of all the participating federal agencies and offices from across HHS as well as from the U.S. Departments of Housing and Urban Development, Justice, and Veterans Affairs.

Vision

The United States will be a place where new viral hepatitis infections have been eliminated, where all people with chronic hepatitis B and hepatitis C know their status, and everyone with chronic hepatitis B and hepatitis C has access to high-quality health care and curative treatments, free from stigma and discrimination.

Commitment

To help achieve our vision, agencies and offices from across the U.S. Department of Health and Human Services and partners from the U.S. Departments of Justice, Housing and Urban Development, and Veterans Affairs have joined together to improve viral hepatitis prevention and the care and treatment provided to people living with hepatitis B and hepatitis C. To be successful in our efforts, we must continue to improve the efficiency, effectiveness, and impact of our work. We must remain flexible to adapt to changing needs and funding levels, and make the best use of scientific, clinical, and programmatic advances. The National Viral Hepatitis Action Plan provides a roadmap for this important work, and the federal government is committed to achieving its goals.

Although this is a federal progress report, we acknowledge the tremendous support and commitment of a broad mix of nonfederal stakeholders from various sectors, both public and private, whose work contributes substantially to our progress. Many of the actions reported reflect the work of nonfederal stakeholders, including actions that are supported through grants, cooperative agreements, partnerships, and other collaborative efforts.

The Action Plan itself is a national plan. It emphasizes that all sectors of society have roles to play if we are to achieve our vision and national goals, prevent disease and death, and reduce costs to the health care system. As progress to address viral hepatitis faces new threats, most notably from the opioid crisis, we must find new ways to work together with a broad variety of stakeholders to sustain our achievements and continue to advance toward our national viral hepatitis prevention and care goals. All sectors of society – both federal and nonfederal – need to do their part to achieve the Action Plan's goals and to realize a future where viral hepatitis has been eliminated.

CONTENTS

INTRODUCTION

This progress report provides an overview of the federal actions that were taken during 2017 to further the goals of the National Viral Hepatitis Action Plan, highlighting key accomplishments within each of its four goals. This progress report is the first annual report on the National Viral Hepatitis Action Plan 2017–2020.

BACKGROUND

Originally released in 2011 to guide our nation's response to the silent epidemic of viral hepatitis, the National Viral Hepatitis Action Plan 2017–2020 (Action Plan) is the third iteration of a strategic roadmap to address viral hepatitis in the United States. Building on the progress achieved under previous Action Plans, the current version of the plan details four goals and more than 20 strategies to be undertaken through 2020. These strategies contribute to improving the prevention, diagnosis, and treatment of viral hepatitis in the United States by federal and nonfederal stakeholders. Federal agencies engaged in these strategies include the U.S. Departments of Health and Human Services (HHS), Housing and Urban Development (HUD), Justice (DOJ), and Veterans Affairs (VA). Nonfederal stakeholders include a wide range of state and local government, nonprofit and advocacy organizations, academic institutions, and professional organizations, as well as private sector groups and companies.

The Action Plan has unified the nation's response to the viral hepatitis epidemic around a set of four goals:

- Goal 1: Prevent new viral hepatitis infections
- Goal 2: Reduce deaths and improve the health of people living with viral hepatitis
- Goal 3: Reduce viral hepatitis health disparities
- Goal 4: Coordinate, monitor, and report on implementation of viral hepatitis activities

The Action Plan also identifies 17 indicators that will be used to monitor progress toward these national goals. It also identifies priority populations that have higher rates and/or risk for transmission of viral hepatitis:

- Baby boomers
- People who inject drugs
- American Indians and Alaska Natives (AI/AN)
- Asian Americans and Pacific Islanders (AAPI)
- African Americans
- People in correctional facilities
- Veterans, particularly those who served during the Vietnam War era

- Homeless individuals
- Men who have sex with men (MSM)
- Pregnant women
- People living with HIV/AIDS

In support of the efforts across HHS and other federal departments to implement the Action Plan, the HHS Office of Infectious Disease and HIV/AIDS Policy (OIDP)[1] convenes the Viral Hepatitis Implementation Group (VHIG) charged with coordinating and monitoring implementation of the Action Plan. The VHIG is chaired by the director of OIDP, and members include representatives from across HHS agencies and other federal departments engaged in implementing the Action Plan. VHIG members meet regularly to share information about resources and initiatives, to advance implementation of the strategies detailed in the Action Plan, and to address new opportunities and challenges. The members serve as representatives within their respective agencies and offices on matters related to viral hepatitis.

2017 PROGRESS

In 2017, federal departments, agencies, and offices made important progress implementing the Action Plan. Key successes reported in 2017 include:

- Expansion of hepatitis A vaccinations among Veterans enrolled in VA care, particularly homeless Veterans;
- Improved screening for priority populations;
- Development of state viral hepatitis epidemiological profiles; and
- Refinement of computational algorithms for probabilistic detection of hepatitis C virus (HCV) transmission and for distinguishing recent and long-term HCV infections.

PROGRESS ON THE INDICATORS

A key feature of the Action Plan are the 17 indicators used to measure progress on the national goals. Of the 17 indicators,

- Three are on track to meet 2020 targets;
- Six are moving in the right direction but require additional effort to meet the 2020 targets;
- Six are trending in the wrong direction; and
- Two do not have updated data available.

[1] Effective June 10, 2019, the Office of HIV/AIDS and Infectious Disease Policy (OHAIDP) and the National Vaccine Program Office (NVPO) merged to form a newly renamed office, the Office of Infectious Disease and HIV/AIDS Policy.

MOVING FORWARD

In reflecting on this progress report, it is important to recognize that though we have made significant advances in the fight against viral hepatitis, our vision has not yet been realized. At the time this report was prepared, work had already begun on the next iteration of the Action Plan to carry forward our work – with the input of individuals living with and at risk for viral hepatitis; community groups; national organizations; the faith community; providers from various disciplines; researchers; federal, state, and local governments; and many others. The next iteration will build on existing knowledge and experiences, set new goals and targets, and guide us beyond 2020 and ultimately to the elimination of viral hepatitis in the United States.

IN THIS REPORT

This progress report follows a new structure in reporting on viral hepatitis activities based on the Action Plan for 2017–2020. Report sections highlight:

- Progress on the Action Plan indicators
- Federal Response, key activities from federal departments and agencies
- Moving Forward, which lays out some of the future needs based on progress to date and the Action Plan's roadmap for achieving its goals

Additional materials in this report:

- Appendix 1 contains detailed graphs of the indicators and current trends illustrating progress toward 2020 targets.
- Appendix 2 includes a more detailed list of reported federal actions undertaken in 2017 and progress to date.
- Appendix 3 lists publications, articles, and reports from federal partners that contribute to the growing body of evidence in the field of viral hepatitis.

An effective response to viral hepatitis requires government-wide action. In the sections that follow, we describe activities based on information collected from federal departments and agencies engaged in implementing the Action Plan. These activities do not reflect the entirety of efforts that make up the totality of the domestic response to viral hepatitis. Rather, they are intended to highlight the activities that most effectively advance our nation toward the goals of the Action Plan.

PROGRESS ON THE INDICATORS

Monitoring Our Progress: 2017

Indicator	Baseline: 2014 (Data Source)†	Measure	Progress: as of 2017		2020 Goal
GOAL 1					
1. Decrease the number of new HBV infections by at least 60%	18,090 (2,791)* *NNDSS*	# estimated and (reported) acute hepatitis B cases in the U.S.	22,100	✗	7,236 (1,116)*
2. Increase the rate of hepatitis B vaccine "birth dose" coverage to 85%	72.4% *NIS-Child*	% children who received the first dose of hepatitis B vaccine within three days of birth	73.6%	↗	85.0%
3. Increase the rate of hepatitis B vaccination among health care personnel to 90%	67.7% *NHIS*	% health care personnel 19 years of age and older with direct patient care responsibilities reporting they have had at least three doses of hepatitis B vaccine	69.8%	↗	90.0%
4. Decrease the number of new HCV infections by at least 60%	30,500 (2,194)* *NNDSS*	# estimated and (reported) acute hepatitis C cases in the U.S.	44,300	✗	10,889 (783)*
GOAL 2					
5. Increase the percentage of persons aware of their HBV infection to 66%	33.0% (REACH) *NHANES*	% respondents who indicate they were aware they had hepatitis B prior to laboratory testing	NO NEW DATA	○	66.0%
6. Reduce the number of HBV-related deaths by 20%	1,843 *NVSS*	# deaths in the U.S. for which hepatitis B is listed as the underlying or a contributing cause of death	1,727	✓	1,474
7. Increase the percentage of persons aware of their HCV infection to 66%	54.0% (2013–2016) *NHANES*	% respondents who indicate they were aware they had hepatitis C prior to laboratory testing	NO NEW DATA	○	66.0%
8. Reduce the number of HCV-related deaths by 25%	19,659 *NVSS*	# deaths in the U.S. for which hepatitis C is listed as the underlying or a contributing cause of death	17,253	✓	14,744
GOAL 3					
9. Decrease the number of new HBV infections among individuals 30–49 years of age by at least 60%	1,706 *NNDSS*	# reported acute hepatitis B cases for adults 30–49 years of age living in the U.S.	2,024	✗	682
10. Reduce the number of HBV-related deaths among AAPI by at least 20%	478 *NVSS*	# deaths among AAPI living in the U.S. for which hepatitis B is listed as the underlying or a contributing cause of death	492	✗	382
11. Reduce the number of HBV-related deaths among African Americans by at least 20%	330 *NVSS*	# deaths among African Americans living in the U.S. for which hepatitis B is listed as the underlying or a contributing cause of death	320	↗	264
12. Reduce the number of HBV-related deaths among individuals 45 years of age and older by at least 20%	1,682 *NVSS*	# deaths among persons ages 45 and older in the U.S. for which hepatitis B is listed as the underlying or a contributing cause of death	1,591	↗	1,346
13. Decrease the number of new HCV infections among individuals 20–39 years of age by at least 60%	1,561 *NNDSS*	# acute hepatitis C cases reported for adults 20–39 years of age in the U.S.	2,105	✗	624
14. Decrease the number of new HCV infections among AI/AN by at least 60%	29 *NNDS*	# reported acute hepatitis C cases for AI/AN living in the U.S.	67	✗	12

Indicator	Baseline: 2014 (Data Source)†	Measure	Progress: as of 2017	2020 Goal
15. Reduce the number of HCV-related deaths among individuals 55–74 years of age by at least 25%	13,389 *NVSS*	# deaths among persons ages 55–74 in the U.S. for which hepatitis C is listed as the underlying or a contributing cause of death	12,672 ↗	10,042
16. Reduce the number of HCV-related deaths among AI/AN by at least 25%	317 *NVSS*	# deaths among AI/AN in the U.S. for which hepatitis C is listed as the underlying or a contributing cause of death	299 ↗	238
17. Reduce the number of HCV-related deaths among African Americans by at least 25%	3,540 *NVSS*	# deaths among African Americans living in the U.S. for which hepatitis C is listed as the underlying or a contributing cause of death	3,262 ✓	2,655

✓ on track to achieve 2020 target ↗ trending in the right direction ✗ not on track to achieve 2020 target ○ data not available

* In cells that contain two numbers, the initial number is estimated cases, the number in parentheses is reported cases.

† NHANES = National Health and Nutrition Examination Survey; NHIS = National Health Interview Survey; NIS-Child = National Immunization Survey-Children; NNDSS = National Notifiable Diseases Surveillance System; NVSS= National Vital Statistics System

FEDERAL RESPONSE TO ADVANCE THE UNITED STATES TOWARD NATIONAL GOALS

The Action Plan was developed collaboratively by partners from federal agencies with input from nonfederal stakeholders from a variety of sectors. Federal representatives serve on the interagency implementation group, the VHIG (described on page 2), composed of the following departments, agencies, and offices.

U.S. Department of Health and Human Services (HHS)

- Agency for Healthcare Research and Quality (AHRQ)
- Centers for Disease Control and Prevention (CDC)
  - Division of Viral Hepatitis (DVH)
- Centers for Medicare & Medicaid Services (CMS)
- Food and Drug Administration (FDA)
- Health Resources and Services Administration (HRSA)
- Indian Health Service (IHS)
- National Institutes of Health (NIH)
  - National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK)
  - National Institute on Drug Abuse (NIDA)
- Office of the Assistant Secretary for Health (OASH)
  - Office of Infectious Disease and HIV/AIDS Policy (OIDP)
  - Office of Disease Prevention and Health Promotion (ODPHP)
  - Office of Population Affairs (OPA)
  - Office of the Surgeon General (OSG)
  - Office on Women's Health (OWH)
  - Regional Health Administrators (RHA)
- Office of Minority Health (OMH)
- Office of the National Coordinator for Health Information Technology (ONC)
- Substance Abuse and Mental Health Services Administration (SAMHSA)

U.S. Department of Housing and Urban Development (HUD)

- Office of Special Needs Assistance Programs

U.S. Department of Justice (DOJ)

- Federal Bureau of Prisons (FBOP)
- Civil Rights Division (CRT)

U.S. Department of Veterans Affairs (VA)

- Office of Specialty Care Services (SCS)

GOAL 1: PREVENT NEW VIRAL HEPATITIS INFECTIONS

Strategies

1. Increase community awareness of viral hepatitis and decrease stigma and discrimination
2. Build capacity and support innovation by the health care workforce to prevent viral hepatitis
3. Address critical data gaps and improve viral hepatitis surveillance
4. Achieve universal hepatitis A and hepatitis B vaccination for children and vulnerable adults
5. Eliminate mother-to-child transmission of hepatitis B and hepatitis C
6. Ensure that people who inject drugs have access to viral hepatitis prevention services
7. Reduce the transmission of viral hepatitis in health care settings among patients and health care workers
8. Conduct research leading to new or improved viral hepatitis vaccines, diagnostic tests, and treatments, and the optimal use of existing tools to prevent, detect, and treat viral hepatitis

We have effective tools and strategies to prevent new viral hepatitis infections. Federal partners took actions to:

- Communicate about viral hepatitis focused on reaching communities that have high rates of infection and settings where people are at risk.
- Increase provider capacity and community awareness to address viral hepatitis.
- Improve data to expand our understanding of viral hepatitis and direct efforts to areas of need.
- Use effective prevention tools including:
  - Hepatitis A vaccine
  - Hepatitis B vaccine
  - Hepatitis C treatment
  - Substance use disorder treatment, syringe services programs, and other risk reduction approaches with people who use drugs

The following reports are a subset of the actions undertaken by federal partners in 2017 in alignment with strategies to prevent new viral hepatitis infections.

Increasing Hepatitis C Awareness and Outreach in Priority Populations

Hepatitis C disproportionately affects several populations, which have been identified as priority populations. Federal partners worked to increase awareness of and address these health disparities as follows:

- CDC supported communication campaigns targeted to baby boomers providing information about hepatitis C and encouraging testing. Program intervention and activities were developed to be accessible and available to health care professionals and members of priority populations. At least 200 partnerships were established with organizations serving populations with a high prevalence of

hepatitis B virus (HBV) or HCV infection to implement and evaluate interventions to improve viral hepatitis testing and detection and to facilitate linkage to care and treatment.

- IHS, through its tribal partnerships, supported hepatitis C community outreach and education in the form of short videos, posters, and pamphlets. All materials were designed by Native health leaders and included testimonials from patients and clinicians who treat hepatitis C, as well as more in-depth education for persons living with hepatitis C and their loved ones. An innovative text-based messaging service for hepatitis C leaders regularly notifies participants of the latest developments in the field. To see the available resources, visit http://www.npaihb.org/hcv/#Community-Resources.
- VA sponsored a national campaign promoting testing for and treatment of hepatitis C, featuring Veterans who have been cured of hepatitis C. The campaign included advertising on billboards and buses in 18 cities in the United States. Ad placements across the 18 sites yielded more than 47 million impressions (the content was viewed 47 million times) with increases in website traffic and hepatitis C testing and increased treatment initiation rates at many VA health care facilities. Nationally, about 3.6 million Veterans and their families were reached through ads placed in six Veteran-focused magazines.
- National Institute on Minority Health and Health Disparities (NIMHD) supported research to improve early detection and prevention among those disproportionately affected by HIV, hepatitis C, colorectal cancer (CRC), and cervical cancer, and who are disenfranchised from the formal health care system. This project developed and implemented a clinical trial that offers screening for all four health conditions in a non-clinical setting, circumventing known structural and access barriers to care. Specifically, this project investigated whether a community health worker (CHW)–led intervention, which provides innovative home-based screening, increases uptake among medically underserved individuals by using oral swabs for HIV, finger stick testing for hepatitis C, Fecal Immunochemical Testing for CRC, and self- sampling for Human Papilloma Virus. The strategies implemented in this project have the potential to increase rates of screening for these conditions and narrow health disparities in screening.

Expanding Viral Hepatitis Services in Key Settings

Settings where people who may be at high risk for viral hepatitis represent important opportunities to provide prevention services. Federal partners reported supporting expanded viral hepatitis services in a number of these settings, via the following:

- OPA offered training to Title X program providers based on their guidance, *Providing Quality Family Planning Services (QFP): Recommendations of CDC and the U.S. Office of Population Affairs*. The guidance recommends that routine hepatitis B vaccination be offered to all unvaccinated children and adolescents and adults who are unvaccinated and do not have any documented history of HBV infection. Testing for hepatitis C is performed based on known risk factors and clinical indication of infection.
- HRSA supported nearly 1,200 health centers to expand mental health and substance use disorder services by providing $200 million in *Access Increases in Mental Health and Substance Abuse Services* (AIMS) funding. These funds were used to increase access to medication-assisted treatment (MAT)

for substance use disorder, which is a major risk factor for hepatitis A, hepatitis B, and hepatitis C. Prevention and treatment of substance use disorders will prevent new viral hepatitis infections.

- SAMHSA funded more than 230 Minority AIDS Initiative programs to address viral hepatitis via substance use disorder prevention and treatment programs. Examples include:
  - Center for Substance Abuse Prevention (CSAP) funded efforts in 127 Minority AIDS Initiative (MAI)–funded programs. These programs work to increase community awareness of viral hepatitis utilizing SAMHSA's Strategic Prevention Framework. Grantees conduct needs assessments and strategic planning to identify and target racial/ethnic minority populations (ages 13 to 24) at highest risk for viral hepatitis infection; provide hepatitis testing; and develop awareness events, social media campaigns, and direct education using culturally appropriate materials, webinars, and testimonials.
  - Center for Substance Abuse Treatment (CSAT) supports Targeted Capacity Expansion (TCE) grantees who provide hepatitis testing and services that include stigma and cultural competency-related technical assistance through the Addiction Technology Transfer Centers. These programs share educational resources and identify evidence-based methods to increase hepatitis A and hepatitis B vaccination rates and linkage to medical treatment for hepatitis C.
  - CSAT funds 108 MAI TCE-HIV grantees that are encouraged to use up to 5 percent of their annual award funds for hepatitis B and hepatitis C testing, hepatitis A and hepatitis B vaccination, purchasing of required supplies, and staff training to enhance knowledge of viral hepatitis and testing protocols.

Increasing Access to Viral Hepatitis Services Among People Who Inject Drugs

Prevention and treatment of substance use disorders, particularly injection drug use, will prevent new hepatitis C virus infections and provide opportunities to offer or refer patients for hepatitis A and hepatitis B vaccination and hepatitis C treatment. In 2017, efforts included:

- CDC continued to support the National Association of County and City Health Officials (NACCHO) to work with local health departments in southwestern Virginia to develop a model plan for addressing the syndemics of opioid abuse, hepatitis B, hepatitis C, and HIV through comprehensive, integrated prevention and harm-reduction services with linkage to care and treatment for those in need. The result will be a model plan that can be adapted to meet the needs of rural and suburban communities and implemented by local health departments across the country.
- IHS initiated a National Committee on Heroin Opioids and Pain Efforts (HOPE) to work with tribal stakeholders to promote appropriate and effective pain management, reduce overdose deaths, and improve access to culturally appropriate treatment. The committee promotes policies, best practices, expanding access to MAT, and harm reduction strategies such as providing hepatitis education, screening, vaccination, and linkage to care and treatment for hepatitis C.
- The Minority AIDS Initiative–Continuum of Care (MAI–CoC) program at SAMHSA's Center for Mental Health Services (CMHS) funded 11 grantees to increase access to prevention and treatment for viral hepatitis and HIV prevention services to individuals who inject opioids and other drugs through supplemental funding of Advancing Prevention and Care Services in At-Risk Urban Communities. The

grantees expanded partnerships to include syringe services programs. In 2017, 1,968 individuals were linked to hepatitis prevention services and a total of 3,835 were served during the three-year grantee program period 2016–2018.

- NIH NIDA collaborated with CDC's National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP), SAMHSA's CSAT, and the Appalachian Regional Commission to support a funding opportunity announcement (FOA). The FOA, HIV, HCV and Related Comorbidities in Rural Communities Affected by Opioid Injection Drug Epidemics in the United States: Building Systems for Prevention, Treatment and Control, will support research projects that will inform community response and promote comprehensive, integrated approaches to preventing HIV and hepatitis C virus infection, along with associated comorbidities such as hepatitis B virus infection and sexually transmitted diseases (STDs), among people who inject drugs (PWID) in rural U.S. communities. Opioid injection and its consequences (e.g., HIV, hepatitis C, hepatitis B, STDs, and overdose) are the primary focuses. These projects are expected to provide evidence of the effectiveness of community response models and best practices in responding to opioid injection epidemics that can be implemented by public health systems in similar rural communities.
- NIH NIDA and CDC's NCHHSTP jointly supported a FOA, Hepatitis C Virus (HCV) Advanced Molecular Detection in Support of Systems for Prevention, Treatment and Control of HIV, HCV and Related Comorbidities in Rural Communities Affected by Opioid Injection Drug Epidemics in the United States. The purpose of this initiative is to support a center for HCV next-generation sequencing (advanced molecular detection) using Global Hepatitis Outbreak and Surveillance Technology (GHOST) to support additional research funded by the companion FOA (above).

Promoting Hepatitis A and Hepatitis B Vaccination and Outbreak Response

In 2017, federal partners supported adult hepatitis A and hepatitis B vaccination in appropriate settings, including HRSA's Ryan White HIV/AIDS Program (RWHAP) for people with HIV, OPA's Title X program in family planning settings, and SAMHSA-funded programs in both CMHS and CSAT for individuals with, or at risk for, mental and substance use disorders.

In 2017, several outbreaks of hepatitis A were reported, and federal partners acted to:

- Support seven states with outbreaks of hepatitis A through technical assistance and guidance.
- Encourage uptake of hepatitis B vaccination through communication materials educating pregnant women, new mothers, and physicians.
- Work with HUD Office of Special Needs Assistance Program's technical assistance providers to develop a public health toolkit that can be used by grantees to address viral hepatitis prevention, care, and treatment of homeless assistance grant beneficiaries.
- Promote hepatitis A susceptibility testing and immunization among Veterans enrolled in VA care, particularly homeless Veterans.

Reducing Mother-to-Child Transmission of Hepatitis B and Hepatitis C

Federal partners identified several areas for clinical support and research on viral hepatitis in maternal-child populations. These actions included:

- HRSA support for the Perinatal Hepatitis B ECHO Project. ECHO (Extensions for Community Health Outcomes) is a model that allows clinicians to do remote case-based learning to treat patients locally with consultation from a remotely located specialist. The project was launched in January 2017 with a goal of providing technical assistance to health centers to reduce mother-to-child transmission of HBV. Health centers participate in the project by (1) presenting patient cases of pregnant women with chronic HBV infection to HBV specialists, (2) sharing strategies for managing at-risk women and children, and (3) participating in discussions with leading hepatitis B experts.
- AHRQ supported the dissemination of U.S. Preventive Services Task Force (USPSTF) *Screening for Hepatitis C Virus Infection in Adolescents and Adults* and screening for hepatitis B among pregnant women. This is a multistep process that begins with the USPSTF drafting and finalizing the research plan, developing a draft evidence review and recommendation statement, finalizing the evidence review, and releasing a final recommendation statement.
- The *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) collaborated with CDC on a cooperative agreement to conduct a clinical trial of hepatitis B treatment (tenofovir disoproxil fumarate) to prevent transmission of hepatitis B virus from hepatitis B e-antigen (HBeAg)–positive women with high levels of HBV DNA to their infants in Thailand. The hypothesis of this study was that a potent antiviral would decrease HBV DNA levels in infected pregnant women and thereby reduce the risk of perinatal transmission (which has been found to be as high as 12 percent even when infants received hepatitis B immune globulin (HBIG) and initiated the hepatitis B vaccine series at birth in previous studies). The study results were recently published in the *New England Journal of Medicine*.
- CDC's Division of Viral Hepatitis (NCHHSTP) funded five health departments under the Perinatal Hepatitis B Prevention Program - Auxiliary Prevention Projects (CDC-RFA-PS16-1602).These projects facilitated the success of current immunization practices to prevent mother-to-child transmission of hepatitis B through (1) improved identification of HBV-infected pregnant women for program case management and prophylaxis of their infants, (2) increased proportion of case-managed infants born to HBV-infected women receiving post-vaccination serologic testing, and (3) collection of demographic and clinical data, including data on maternal antiviral therapy, for ascertainment of factors associated with perinatal HBV transmission and vaccine response.
- CDC's National Center for Immunization and Respiratory Diseases (NCIRD), Immunization Services Division, continued to fund Perinatal Hepatitis B Prevention Programs among the 64 recipients of Immunizations and Vaccines For identified Children Awards (CDC-RFA-IP113-1301). These programs seek to prevent mother-to-child transmission of hepatitis B virus by (1) identifying HBsAg-positive pregnant women, (2) ensuring HBV-exposed infants receive post-exposure prophylaxis, (3) ensuring identified HBV-exposed infants complete the ACIP recommended hepatitis B vaccine series, and (4) ensuring vaccinated HBV-exposed infants receive post-vaccination serologic testing. For the 2017 birth cohort, 97% received post-exposure prophylaxis at birth, 82% received post-exposure

prophylaxis and completed hepatitis B vaccine series by 12 months, and 66% of all case-managed infants completed post-vaccination serologic testing (PVST).

- NICHD supported research on viral hepatitis in pregnancy including:
  - Evaluation of the impact of HIV prevention of mother-to-child transmission (PMTCT) interventions on HIV/HBV co-infected women and their infants with the goal of defining the optimal PMTCT regimen in HIV/HBV co-infection to inform global hepatitis B prevention strategies.
  - Evaluation of pharmacokinetics, viral response, and safety of hepatitis C treatment (ledipasvir/sofosbuvir) in pregnant women with chronic HCV infection, the findings from which will provide a basis for future studies to optimize the dose, timing, and duration of treatment, with the aim to develop successful antenatal hepatitis C treatment that will improve maternal health, prevent further transmission in the community and perinatal HCV transmission to the child, and enhance the long-term health of two generations.
  - A multi-center observational prospective case-control study by the Maternal-Fetal Medicine Units Network examining risk factors for HCV transmission from mother to baby and risk factors associated with HCV infection in pregnant women.
  - A study to investigate the integration and nature of multi-cellular immune responses within the maternal-fetal interface and advance understanding of the immune mechanisms and factors that determine how HCV infection is transmitted from women to their offspring during pregnancy.

GOAL 2: REDUCE DEATHS AND IMPROVE THE HEALTH OF PEOPLE LIVING WITH VIRAL HEPATITIS

Strategies

1. Build the capacity of the health care workforce to diagnose viral hepatitis and provide care and treatment to persons living with chronic viral hepatitis
2. Identify persons infected with viral hepatitis early in the course of their disease
3. Improve access to and quality of care and treatment for persons infected with viral hepatitis
4. Improve viral hepatitis treatment among persons living with HIV/AIDS
5. Ensure that people who inject drugs have access to viral hepatitis care and evidence-based treatment services
6. Expand access to and delivery of hepatitis prevention, care, and treatment services in correctional settings
7. Monitor provision and impact of viral hepatitis care and treatment services
8. Advance research to enhance identification, care, treatment, and cure for persons infected with viral hepatitis

The following activities are a subset of the actions undertaken by federal partners in 2017 in alignment with strategies to reduce deaths and improve the health of people living with viral hepatitis.

Federal partners acted to:

- Build capacity to improve viral hepatitis diagnoses in priority populations.
- Expand access to high-quality treatment for hepatitis B and hepatitis C.
- Address HCV/HIV co-infection.
- Expand viral hepatitis treatment options.
- Conduct important research contributing to viral hepatitis identification, care, treatment, and cure.

Building Capacity to Diagnose Viral Hepatitis for Priority Populations

Accurate hepatitis B and hepatitis C diagnostic tests exist and are covered by most health insurance plans without extra charge to the consumer. With the availability of these diagnostic tests, federal partners took steps to increase testing rates across target populations:

- CDC awarded $5.7 million over a four-year project period (2017–2020) to state and local health departments in 46 U.S. states, 3 cities, and the District of Columbia (NOFO PS-17-1702). The cooperative agreement, *Improving Hepatitis B and C Care Cascades: Focus on Increased Testing and Diagnosis*, was to support activities to better integrate viral hepatitis prevention services into health care settings and public health programs (e.g., STD, HIV, immunization, correctional health, substance abuse treatment, and syringe services programs) that serve adults at risk for viral hepatitis. The project aimed to increase the number of persons living with HBV and/or HCV infection who were tested, made aware of their infection status, and linked to care and treatment services, if needed.
- The SAMHSA CMHS MAI-CoC program provided for the integration of viral hepatitis testing (and vaccination) services for individuals with, or at risk for, mental and substance use disorders, and living with, or at risk for, HIV and viral hepatitis, including racial and ethnic minority communities. This activity is integrated with services for mental and substance use disorder treatment and prevention. Grantees deliver services by leveraging local partnerships, often including HRSA's Ryan White programs. Across 34 grantees, the results are as follows.

	FY 2017 Total Tested	Total Tested Positive	FY 2015–2017 Total Tested	Total Tested Positive
Hepatitis B	521	7	1,138	27
Hepatitis C	6,938	687	15,874	1,796

- From January to December 2017, VA hepatitis C birth cohort screening rates increased from 78.8 percent to 80.1 percent.
- IHS continued to expand use of clinical decision support/electronic reminders. Hepatitis C screening among persons born 1945–1965 can be flagged among patients who have no recorded test. In 2012, the year the national screening recommendation was released, screening coverage of the birth cohort was 8 percent; in 2017, coverage was 54 percent.

- IHS collaborated with a hepatitis C working group of internal and external experts in Indian Country to develop recommendations on screening and treatment in accordance with national guidelines and the National Viral Hepatitis Action Plan. A first set of key recommendations is pending review, while additional recommendations remain in development.

Expanding Access to High-Quality Viral Hepatitis Treatment

Ensuring access to hepatitis B and hepatitis C treatment is essential to treating and curing infections and reducing related deaths. The costs of hepatitis C treatment have decreased substantially since the first direct acting antiviral therapies were approved. New strategies are needed to increase awareness and uptake of hepatitis B and hepatitis C treatments. Highlights from federal partners include:

- VA's National HBV Working Group developed a national plan of action to address hepatitis B across the VA system. The plan included the identification of indicators for quality of care for hepatitis B based on current professional society guidelines and scientific evidence. The working group identified several informatics tools that will be helpful to address gaps in care and aid front line providers in the care and monitoring of patients with hepatitis B. The working group also participated in the planning and development of various hepatitis B educational materials and training opportunities.
- The CMS Division of Pharmacy continued providing technical assistance to states and their contractors on methods that may help increase access and manage costs for hepatitis C drug treatment. CMS worked with manufacturers and states on their development of various alternative payment models.
- In conjunction with tribal and university partnerships, IHS facilities participated in any of five monthly hepatitis C telehealth programs to consult with specialists. More than 250 patients were presented in FY 2017, with participation from more than 20 states and an estimated 200 clinicians. This ECHO model provides critical knowledge to providers at IHS clinics that are located far from a specialist. Preliminary results of ECHO participants showed that 60 percent of attendees started their hepatitis C clinic subsequent to being linked to a hepatitis C ECHO. IHS conducted multiple in-person regional hepatitis C trainings and planned to replicate the success of this model in more regions in 2018. In addition, dozens of hepatitis C-related clinical questions were answered via a hepatitis C warmline operated by a university partner.
- VA continues to support regional Hepatic Innovation Teams (HITs). The HITs bring together field providers and system redesign experts to develop and disseminate strong practices in hepatitis C care that increase access to care and treatment, contribute to building high-performing networks, and increase engagement for VA employees. As of the end of 2017, VA treated 102,443 patients with hepatitis C, with cure rates upwards of 95 percent.
- CDC funded three sites under the Community-based Programs to Test and Cure Hepatitis C (CDC-RFA-PS14-1413) FOA to build health care capacity to diagnose and cure hepatitis C virus infection through implementation of a package of services in a population with hepatitis C-related health disparities. A coalition of key stakeholders (e.g., health departments, specialists in hepatitis C care, and primary care providers) was funded to develop and implement services with the following goals:

  - Increased primary care provider capacity to diagnose and cure HCV infection (including increased use of electronic medical records);
  - Increased availability of population-level data (for assessment of community impact); and
  - Meeting or exceeding targets for testing (i.e., at least 10,000 persons), diagnosis, and cure.
- The SAMHSA CMHS MAI-CoC grant program provided viral hepatitis prevention services to individuals who inject opioids and other drugs through supplemental funding under the Minority HIV/AIDS Fund, for Advancing Prevention and Care Services (APCS) in At-Risk Urban Communities. Eleven grantees expanded partnerships to include syringe service programs to increase access to prevention and treatment for hepatitis, HIV, and mental health disorders.
  - Across grantees, in FY 2017, of 219 individuals who tested positive for hepatitis C and 2 for hepatitis B, 215 were linked or referred to care (182 referred, and 33 linked to care). For the three-year period through FY 2017, of the 666 individuals who received positive tests for hepatitis C and 2 for hepatitis B, 664 were linked or referred to medical care (530 were referred, and 134 linked).
- AIMS funding, supported by HRSA Bureau of Primary Health Care, provided $200 million to nearly 1,200 health centers to expand mental health and substance use disorder services, including access to MAT. Health centers will work to improve the quality of care provided to patients with viral hepatitis by integrating mental health and substance use disorder, viral hepatitis care and treatment, and primary care.
- The HRSA-funded Opioid Addiction Treatment (OAT) ECHO worked to improve and expand the delivery of substance use disorder services in health centers with a specific focus on opioid use disorder. Health centers improved the quality of care provided to patients with viral hepatitis by integrating mental health and substance use disorder, viral hepatitis, and primary care. The OAT ECHO provides virtual didactic trainings and provider-to-provider consultations on implementing comprehensive substance use disorder services at health centers.

Expanding Viral Hepatitis Treatment Options

FDA plays a critical role in approving new therapies and making them available to the public. Highlights of 2017 activities include:

- FDA's Center for Drug Evaluation and Research, Division of Antiviral Products, engaged in discussions with various stakeholders through the HBV Forum (Forum for Collaborative Research) and professional societies to enhance the development of novel therapies for treatment of chronic hepatitis B. A multidisciplinary working group in FDA's Center for Drug Evaluation and Research worked to produce a guidance document for the development of drugs to treat chronic hepatitis B, which was released in 2018.
- FDA's Center for Devices and Radiological Health, Division of Microbiology Devices, continued to engage in discussions with various stakeholders through the HBV Forum (Forum for Collaborative Research) and professional societies to promote the development of new diagnostic devices for the evaluation of endpoints for novel HBV therapy evaluation.

- The FDA Center for Drug Evaluation and Research approved Sovaldi (sofosbuvir) and Harvoni (ledipasvir/sofosbuvir) to treat hepatitis C in children ages 12 to 17. These are the first approved direct-acting antiviral treatments that address an unmet need to provide treatment options for six major genotypes of HCV in children and adolescents.
- The FDA Center for Drug Evaluation and Research approved Vosevi (sofosbuvir/velpatasvir/voxilaprevir), a fixed-dose combination (FDC). This is an interferon-free, complete regimen for adult patients with chronic hepatitis C. Vosevi is the first treatment approved for patients who have been previously treated with the direct-acting antiviral drug sofosbuvir or other drugs for HCV that inhibit a protein called NS5A. Vosevi provides a treatment option for some patients who were not successfully treated with other HCV drugs in the past. The Center also approved Mavyret (glecaprevir/pibrentasvir) to treat adults with HCV genotypes 1–6 without cirrhosis, or with mild cirrhosis, including patients with moderate to severe kidney disease and those who are on dialysis. This approval provides a shorter treatment duration for many patients. The FDA granted both applications Priority Review and Breakthrough Therapy designations.
- The FDA Center for Drug Evaluation and Research approved updated labeling for Epclusa (sofosbuvir/velpatasvir), a once-daily single tablet regimen for the treatment of adults with chronic HCV infection, to include use in patients co-infected with HIV.

Curing HCV in Patients With HIV/HCV Co-Infection

People who are co-infected with HIV and HCV are a priority population for hepatitis C prevention, diagnosis, and cure because in comparison with HCV-mono-infected patients, persons co-infected with HIV have higher liver-related mortality as well as overall mortality. Federal partners took several actions to improve health outcomes among coinfected individuals, including:

- HRSA's RWHAP-funded clinical providers screen, link, and treat people with HIV who are co-infected with HBV and HCV, in accordance with *Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV*.
- HRSA's Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV initiative, funded through the 2016 Minority HIV/AIDS Fund, awarded three RWHAP Part A recipients and two RWHAP Part B recipients through the National Alliance of State and Territorial AIDS Directors for a three-year project intending to improve jurisdiction-level hepatitis C screening, care, and treatment systems; identify existing barriers to care (for both patients and providers); increase the capacity of hepatitis C state and local surveillance systems; and better define the hepatitis C care continuum in the RWHAP.
- HRSA's Curing Hepatitis C among People of Color Living with HIV was funded through the 2017 Minority HIV/AIDS Fund. Two academic centers were awarded funding to conduct a three-year project intending to improve care for people with HIV (PWH) through the development of comprehensive jurisdiction-level hepatitis C screening, care, and treatment systems and the enhancement of state and local health department surveillance systems to increase capacity to monitor acute and chronic co-infections of HIV and HCV. This project also aims to improve coordination with SAMHSA-funded substance use disorder treatment providers to deliver mental

health and substance use disorder treatment support to achieve treatment completion, prevent HCV infection, and prevent re-infection.

- Throughout 2017, HRSA-funded AIDS Education and Training Centers (AETC) continued to provide clinical training and clinical consultation on hepatitis B and hepatitis C for co-infected people with HIV, including Partnerships for Care (P4C) co-infection webinars. The AETCs also launched an evidence-based online curriculum for health care providers and trainers of health care providers to increase their knowledge on HIV and HCV co-infection among people of color.

Supporting Research to Improve the Health of People Living With Viral Hepatitis

Federal partners play a key role in advancing research to enhance identification, care, treatment, and cure for persons infected with viral hepatitis. In 2017, highlights included:

- NIDA supported a FOA on *HIV/HCV Co-Infections in Substance Abusers*. The purpose of this initiative is to fill gaps in the understanding of:
  - The impact of addiction on HIV, HIV/HCV co-infection associated disease progression;
  - The pathogenic interactions between HIV and hepatitis C virus;
  - Hepatic and non-hepatic co-morbidities associated with HIV/HCV co-infections in people with substance use disorders; and
  - The effectiveness of interferon-free direct-acting antiviral (DAA) drug regimens to treat HIV/HCV co-infections in people with substance use disorders.
- NCI, NIAID, and NIAAA supported funding opportunities on HIV and Hepatitis B Co-Infection: Advancing HBV Functional Cure through Clinical Research through an Exploratory/Developmental Research Grant and a Research Project Grant. These FOAs serve to fill scientific gaps related to:
  - Improving hepatitis B treatment strategies by furthering our understanding of unique challenges impacting HBV and HIV co-infected hosts; and
  - Advancing the discovery and development of novel hepatitis B interventions that are safe and achieve eradication of hepatitis B surface antigen (HBsAg) in HIV/HBV co-infected individuals.
- NCI, NIAID, and NIAAA supported a funding opportunity on HIV and Hepatitis B Co-Infection: In Vitro and Animal Model Studies on HIV/Hepatitis B Co-Infection through an Exploratory/Developmental Research Grant and a Research Grant Project with the purpose of:
  - Accelerating development of novel in vitro and small animal models to accelerate drug discovery/drug development in HIV/HBV co-infection; and
  - Stimulating and accelerating a better understanding of the immunopathogenic interactions between HBV and HIV.
- Intramural researchers at NIAID, NIDDK, NCI, and the NIH Clinical Center conducted ongoing translational research studies on the molecular mechanisms involved in the pathogenesis of acute and chronic liver disease (with a focus on viral cirrhosis and hepatocellular carcinoma [HCC]) aimed at investigating the role of hepatitis viruses in liver carcinogenesis. NCI supported a funding opportunity announcement, Consortium on Translational Research in Early Detection of Liver Cancer, through Cooperative Agreement Research Project Grants for the purpose of improving the

surveillance of liver cancer in high-risk populations (e.g., HBV/HCV-infected individuals), increasing the fraction of liver cancer detected at an early stage, and better stratifying patients at risk of developing liver cancer (e.g., in HCV treated patients).

- NIDDK's Hepatitis B Research Network (HBRN) is a collaborative agreement supporting several antiviral therapy trials with a clinical endpoint of the loss of HBsAg, otherwise known as a functional "cure" of the chronic infection. The study includes participation of CDC. In 2017, HBRN consisted of 13 medical sites throughout the United States and Canada that had enrolled approximately 2,500 adults and 500 children in a study of the long-term clinical course, pathogenesis, and management of chronic hepatitis B. HBRN includes a Data Coordinating Center, an Immunology Core, a Virology Core, and a sample Repository that, in 2017, contained more than 200,000 specimens of DNA and serial serum samples from the participants. The Network also is engaged with many ancillary studies focusing on the pathogenesis of chronic hepatitis B and its complications. The Network was synergized in 2014 with the addition of a separate ancillary study to include a cohort of patients with HIV/HBV co-infection.

GOAL 3: REDUCE VIRAL HEPATITIS HEALTH DISPARITIES

Strategies

1. Decrease health disparities by partnering with and educating priority populations and their communities about viral hepatitis and the benefits of available prevention, care, and treatment
2. Improve access to care and the delivery of culturally competent and linguistically appropriate viral hepatitis prevention and care services
3. Monitor viral hepatitis-associated health disparities in transmission, disease, and deaths
4. Advance basic, clinical, translational, and implementation research to improve understanding of and response to viral hepatitis health disparities

The following are a subset of the actions undertaken by federal partners in 2017 in alignment with strategies to reduce viral hepatitis health disparities. Federal partners acted to:

- Focus on racial and ethnic disparities and stigma.
- Improve viral hepatitis prevention and treatment services for people with HIV.
- Focus on hepatitis B disparities.
- Address disparities in hepatitis C treatment, liver disease, and liver cancer.
- Monitor health disparities in viral hepatitis.

Focusing on Viral Hepatitis Racial and Ethnic Disparities and Stigma

- IHS worked closely with tribal and urban Indian health care clinics to provide culturally competent care to AI/AN people. Clinicians working at IHS, tribal, and urban Indian health care clinics are attuned to cultural considerations and community constraints such as long distances to referrals and the stigma surrounding a hepatitis C diagnosis in small rural communities. OMH developed and

implemented the Empowered Communities for a Healthier Nation Initiative, which sought to reduce significant health disparities impacting racial and ethnic minorities and/or disadvantaged populations through evidence-based strategies with the greatest potential for impact. The program was intended to serve residents in communities disproportionately impacted by the opioid epidemic, childhood or adolescent obesity, and serious mental illness. Seven grant awards support projects focused on opioid use disorder that include screening/testing/referral to care for HIV and viral hepatitis.

- The SAMHSA/CSAP Minority AIDS Initiative funded 127 grantees to decrease health disparities by partnering with and educating priority racial/ethnic minority populations (ages 13 to 24) and their communities about viral hepatitis and the benefits and availability of prevention, care, and treatment services. Grantees also provide direct hepatitis education and information, using culturally appropriate curriculums, fact sheets, webinars, and testimonials. Participants were evaluated on their attitudes and knowledge, as well as behavior and relationships, at baseline, exit, and follow-up to ensure that information about hepatitis is attained. Participants were provided with information on how to access prevention and treatment services in their communities. Recipients could use up to 30 percent of their award for these activities. The total amount available for these activities in FY 2017 was $10,871,179.

Improving Viral Hepatitis Services for People With HIV

- Throughout 2017, HRSA-funded AIDS Education and Training Centers continued to provide clinical training and clinical consultation on hepatitis B and hepatitis C for co-infected PWH, including P4C co-infection webinars. AETCs also launched an evidence-based online curriculum for health care providers and trainers of health care providers to increase their knowledge on HIV and HCV co-infection among people of color.
- HRSA's Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV was funded through the 2016 Minority HIV/AIDS Fund. Three RWHAP Part A recipients (New York City, Hartford, and Philadelphia) and two RWHAP Part B recipients (Louisiana and North Carolina) were funded for a three-year project through the National Alliance of State and Territorial AIDS Directors. The purpose of the project was to improve jurisdiction-level hepatitis C screening, care, and treatment systems; identify existing barriers to care (for both patients and providers); increase the capacity of hepatitis C state and local surveillance systems; and better define the hepatitis C care continuum in the RWHAP.

Focusing on Hepatitis B Disparities

- CDC funded three programs to develop hepatitis B testing and linkage-to-care programs serving non-U.S.-born persons during 2014–2017, through PS14-1414 Community-based Hepatitis B Testing and Linkage to Care Programs, in a non-governmental agency in Chicago; community health centers in Livingston, NY, and New York City; and an academic health center in Sacramento, CA. Findings from this project indicate that hepatitis B testing and linkage to care can be achieved among hard-to-reach populations through partnerships with community organizations, health centers, and public health departments. Seventy-eight percent of persons with chronic HBV infection were linked to care using community-based services.

- Through the State Partnership Initiative to Address Health Disparities grant program, OMH provided support to the Mississippi Department of Health to implement the Test to Protect Family and Self: A Hepatitis B Project in the Vietnamese communities of Harrison, Hancock, and Jackson counties in Mississippi. This project focused on increasing the proportion of persons who have been tested for hepatitis B within minority communities experiencing health disparities. The project goal was to implement system-level, evidence-based strategies to address hepatitis B among Vietnamese populations of the Mississippi Gulf Coast.

Addressing Disparities in Hepatitis C Treatment, Liver Disease, and Liver Cancer

- NCI, NIMHD, and NIAAA jointly sponsored two initiatives through a FOA, Mechanisms of Disparities in Chronic Liver Diseases and Cancer through an Exploratory/Developmental Research Grant and a Research Project Grant. The purpose of these initiatives is to support multidisciplinary innovative exploratory and developmental research to understand the underlying etiologic factors and the mechanisms that result in disparities in chronic liver diseases and cancer in the United States.
- Researchers at the NIH's NIAID and NIDDK initiated several clinical research studies of oral therapy regimens for acute and chronic hepatitis C. These studies focus on high-risk patients in vulnerable populations who are not usually included in industry-supported studies that lead to drug licensure. These populations include the uninsured, recent emigrants from Africa and Asia, racial/ethnic minority populations, persons with advanced liver disease and cirrhosis, and persons co-infected with HIV. The NIAID trial is evaluating treatment of hepatitis C in HIV-infected people undergoing or in need of a liver transplant.
- NIH research funded by NIAID, NHLBI, NICHD, NIMHD, National Institute on Deafness and Other Communication Disorders, NCI, NIDA, and the Office of the Director jointly supported The Washington Metropolitan Women's Interagency HIV Study. For over 18 years, this study has recruited and retained a highly representative community-based cohort of women at risk of HIV. Washington, DC, has the highest prevalence of HIV of any urban center in the United States. In this initiative, researchers are expanding local initiatives on HIV- and Hepatitis C-associated liver disease by exploring the host response, epigenetic factors, and protein glycosylation in liver disease and cancer. They are expanding research in organ-specific morbidities associated with long-term survival in an aging population with the goal of reducing or preventing morbidity in the areas of vascular health, neurocognitive decline, and the vaginal immunologic response in aging.

Monitoring Health Disparities in Viral Hepatitis

- In collaboration with CDC, IHS conducted a national analysis of hepatitis C burden, showing approximately 30,000 unique patients with a hepatitis C diagnosis code from 2005–2015, with significant differences by geographical region and sex. CDC national surveillance conducts additional monitoring of disparities in disease and death and monitors AI/AN patients nationwide, not just the 2.2 million served by IHS/Tribal/Urban Indian health facilities. These data show significant disparities in hepatitis C disease and death in AI/AN populations.

- CDC and NIDA updated the National HIV Behavioral Surveillance system among persons who inject drugs, with 22 centers participating across the United States, including Puerto Rico. Plans for 2018 included improvements in recruiting people who inject drugs who are younger than 30 years old, hepatitis C testing, and expansion of recruitment outside the urban core.

GOAL 4: COORDINATE, MONITOR, AND REPORT ON IMPLEMENTATION OF VIRAL HEPATITIS ACTIVITIES

Strategies

1. Increase coordination of viral hepatitis programs across the federal government and among federal agencies, state, territorial, Tribal, and local governments as well as non-governmental stakeholders from all sectors of society
2. Strengthen timely availability and use of data
3. Encourage development of improved mechanisms to monitor and report on progress toward achieving national viral hepatitis goals
4. Regularly report on progress toward achieving the goals of the National Viral Hepatitis Action Plan

The following are a subset of the actions undertaken by federal partners in 2017 to improve coordination, monitoring, and reporting on the implementation of viral hepatitis activities.

Federal partners acted to:

- Improve viral hepatitis program coordination.
- Improve population and patient data timeliness and availability.
- Report on progress toward the 2020 goals.

Improving Viral Hepatitis Program Coordination

- In March 2017, the National Academies of Science, Engineering, and Medicine released a consensus report, *A National Strategy for the Elimination of Hepatitis B and C*. Co-sponsored by CDC, the report proposes numeric targets to eliminate the public health threat of hepatitis B and hepatitis C in the United States by 2030 and suggests a plan of action to achieve the elimination goals. After extensive research, this report offers recommendations that resonate with many of our highest priorities for viral hepatitis prevention. The report underscores the important public health role of testing, case management, and linkage to care; the central role of public health surveillance; and recommendations for addressing viral hepatitis in priority populations, including people who inject drugs and those incarcerated.
- OIDP partnered with CMS, CDC, HRSA, OMH, and SAMHSA to plan and launch an evaluation project, the Hepatitis C Medicaid Affinity Group, which aims at increasing the number and percentage of Medicaid patients diagnosed with hepatitis C who are successfully treated and cured. The affinity group was open to all states to participate on a volunteer basis, and nine states were selected. This project supports diverse teams of Medicaid and public health staff from each state to:

  - Identify state-specific goals and develop action plans to achieve their goals.
  - Connect with experts on a variety of topics.
  - Provide opportunities for states to exchange success stories and receive technical assistance on various challenges related to cost containment.
  - Identify effective care delivery models to enhance viral hepatitis screening, testing, and treatment.
- FDA leveraged an email listserv to enhance communication and timely dissemination of information about new drug approvals and labeling revisions for previously approved drug products.
- HUD collaborated with HHS partners to explore ways to more rapidly respond to communities impacted by hepatitis A outbreaks. Recent outbreaks have disproportionately affected individuals experiencing homelessness and HUD's network of homeless services and technical assistance providers are a unique and important resource that can expand hepatitis A prevention efforts in this priority population.
- IHS worked with CDC, VA, and OMH on data and policy analysis and program implementation including training/education for hepatitis C. These collaborations include in-depth analysis of hepatitis C clinical and laboratory data, comparison of clinical resources and needs, access to and costs of hepatitis C drugs, and culturally appropriate trainings for clinicians and community health leaders.

Improving Population and Patient Data Timeliness and Availability

- With support from CDC's viral hepatitis program, the Association of State and Territorial Health Officials funded 20 state health agencies to develop state-specific viral hepatitis epidemiological profiles to increase public and professional awareness of viral hepatitis prevention, care, and planning.
- In May 2017, CDC's viral hepatitis program funded 14 awardees through a cooperative agreement, *Strengthening Surveillance in Jurisdictions with High Incidence of Hepatitis C Virus and Hepatitis B Virus Infections*. Over the four-year project period, funds will be used to improve active surveillance of hepatitis C and hepatitis B by enabling jurisdictions experiencing high rates of new cases of hepatitis C and/or hepatitis B infections to engage directly with providers, laboratories, and patients to obtain more complete viral hepatitis case information.
- CDC developed novel computational algorithms for probabilistic detection of hepatitis C transmission and for distinguishing recent versus long-term hepatitis C infections. These algorithms were converted into GHOST tools. GHOST is a cloud-based, public health research tool that helps state and local health departments more quickly detect and fight the spread of hepatitis C. CDC's viral hepatitis program and the Association of Public Health Laboratories hosted a three-day laboratory training workshop on GHOST to provide hands-on experience with procedures using next-generation sequencing technology and interactive training on using quality control and transmission detection bioinformatics tools.

- FDA's center for Drug Evaluation and Research, Division of Antiviral Products collaborated with the Hepatitis C Therapeutic Registry and Research Network (HCV-TARGET) to use real-world clinical data and evidence for antivirals approved for the treatment of chronic hepatitis C infection.
- IHS provided a patient management tool, iCare, for local use in IHS-funded facilities. This helped grantees' frontline clinicians review hepatitis C screening history in real time at the facility level and offer testing for those in need.
- VA supported a national collaborative to refine and disseminate a national hepatitis C dashboard. This working group was established in 2016 with the goal of providing guidance and information-sharing using electronic tools for screening and treatment metrics in the management of hepatitis C in VA. The dashboard allows for rapid identification of patients in the birth cohort, rapid identification of patients with known or suspected chronic hepatitis C for evaluation and referral, tracking of patients on direct acting antiviral therapy, use of electronic scorecards for facilities to track local progress toward goals, and sorting patients by clinic assignment. The dashboard enables primary care teams to participate in efforts to expand testing and referral for care.

FISCAL YEAR 2015 FEDERAL VIRAL HEPATITIS SPENDING REVIEW

OIDP responded to a 2016 congressional inquiry about federal funding spent on viral hepatitis. In consultation with members of the VHIG, a request was made for federal funding spent during fiscal years (FY) 2015–2017. Because funding levels are not final until the completion of the fiscal year, the final submissions included actual funding spent on viral hepatitis in FY 2015 and projected funding for FY 2016 and FY 2017. An analysis of the final FY 2015 funding spent on viral hepatitis was developed. Key points from the FY 2015 summary include:

- An estimated total of $12.4 billion was spent in viral hepatitis on domestic programs. Of this total:
  - A majority of those funds, an estimated $11.9 billion, was spent on hepatitis C treatment, in large part due to the high cost of the newly available hepatitis C direct-acting antivirals. This included $8.8 billion (Medicare) and $3.1 billion (Medicaid).*
  - An estimated $10.7 million was spent on hepatitis testing.
  - Approximately $361 million was spent on viral hepatitis prevention efforts, including $330 million on vaccines.
  - An estimated $139 million was spent on domestic viral hepatitis research.
- An estimated $6.6 million was spent on international programs, the bulk of which was for research purposes.

*New hepatitis C treatments were only used to treat hepatitis C, so data on hepatitis C treatment were available for analysis. Hepatitis B treatments were used to treat other infections in addition to hepatitis B, so hepatitis B-specific spending could not be analyzed.

- SAMHSA CSAT Program Management Branch data personnel supported the MAI-funded TCE-HIV and MAI-CoC programs with resources for timely and informed decision-making, which is critical for successful program implementation. Data personnel run ad hoc reports on hepatitis testing, linkages, etc., upon request. CSAP CMHS also provides real-time data reporting on hepatitis B and hepatitis C events. Grantees collecting HIV and hepatitis information use the SAMHSA Rapid HIV/Hepatitis Testing Clinical Information Form to gather HIV/hepatitis testing information. They electronically upload the information into the SAMHSA Performance Accountability and Reporting System.

Reporting Progress Toward 2020 Goals

- OIDP collaborated with all the federal partners engaged in implementing the National Viral Hepatitis Action Plan to finalize and release the 2015 and 2016 annual progress reports. The reports highlight examples of important work to advance the Action Plan undertaken by federal partners during each of those years.
- CDC's DVH produced Progress Toward Viral Hepatitis Elimination in the United States, 2017, an inaugural report highlighting the nation's progress toward reducing the burden of Hepatitis A virus, HBV, and HCV infections. The report reflects progress toward accomplishing the goals outlined in the 2017–2020 National Viral Hepatitis Action Plan and the Division of Viral Hepatitis Strategic Plan, 2016–2020 and suggests specific strategies for overcoming existing challenges to eliminating viral hepatitis. The report also complements a March 2017 report released by the U.S. National Academies of Sciences, Engineering, and Medicine titled *A National Strategy for the Elimination of Hepatitis B and C*, which highlights the actions necessary to eliminate hepatitis B and hepatitis C as public health threats in the United States by 2030.

MOVING FORWARD

The National Viral Hepatitis Action Plan provides a framework that can be used by stakeholders at all levels to plan strategically and work toward eliminating viral hepatitis as a public health threat in the United States. It is clear that some viral hepatitis efforts are effectively reducing new infections and deaths due to viral hepatitis, but equally clear from this report the need remains to expand current efforts to reach our aspirational goals for 2020 and beyond.

Expanding actions to improve prevention, diagnoses, care, and treatment for viral hepatitis can happen in a variety of ways, including increasing the number of partners, identifying new funding, and identifying opportunities to leverage ongoing efforts such as opioid crisis response, clinical quality improvement, and outreach to priority populations.

Planning for a future in which viral hepatitis has been eliminated will require support from leadership, stronger partnerships and collaboration, and innovation. Innovations can radically change the field as we have seen with:

- The development and implementation of widespread hepatitis B vaccination beginning in the 1980s;
- The development and expanded use of curative hepatitis C treatment;
- VA, which has identified and treated almost all Veterans enrolled in VA care who have chronic hepatitis C; and
- States like Louisiana and Washington, which have negotiated new programs with manufacturers to treat and cure all state residents living with hepatitis C.

HHS encourages all our partners to consider how they can expand their work toward viral hepatitis elimination and discuss their ideas and plans with local and national partners. If your organization is working toward hepatitis elimination, join Mapping Hepatitis Elimination in Action and continue to share with others the strategies that have worked for you.

APPENDIX 1: PROGRESS BY INDICATOR

Indicators are important tools that help us measure progress towards meeting the goals established in this Action Plan. The indicators were selected because they represent the best way to measure national progress on viral hepatitis with the available data. Most indicators from the 2014–2016 Action Plan remained. The indicators and targets were also selected based on alignment with other national plans. The baseline year for the indicators is 2014. At the time the National Viral Hepatitis Action Plan, 2017–2020 was published in 2016, the most recent national surveillance data available from CDC was from 2014. Data are generally available for January–December two or three years prior to the current calendar year. This time lag is due to the considerable time and effort needed to collect data from all jurisdictions, ensure completeness and accuracy to the extent possible, and conduct analyses. The data sources for the indicators are listed below. The methodology for measuring indicators from the NNDSS and NVSS is available in the *Viral Hepatitis Surveillance – United States, 2017*. The methodology for measuring indicators from NHANES, NHIS, and NIS-Child is available from the data sources.

The information in Appendix 1 is also summarized in the table on page 4–5 of this report. This appendix provides a graph of annual targets that were set forth in the Action Plan and the current trends based on CDC surveillance data. The linear trend projections are based on available data and may change when new national data is published.

Data Sources

The **National Health and Nutrition Examination Survey** (NHANES) is a CDC program designed to assess the health and nutritional status of adults and children in the United States. A survey and physical examination of a nationally representative sample of 5,000 persons each year collects demographic, socioeconomic, dietary, and health-related data as well as medical, dental, and physiological measurements and results of laboratory tests administered by medical personnel.

The **National Health Interview Survey** (NHIS) is an annual, cross-sectional in-person household survey collected by CDC's National Center for Health Statistics and conducted by interviewers trained by the U.S. Census Bureau. Data are used to monitor self-reported trends in illness and disability among the U.S. civilian noninstitutionalized population. NHIS provides adult vaccination coverage estimates.

The **National Immunization Surveys** (NIS) are a group of telephone surveys sponsored and conducted by CDC's National Center for Immunization and Respiratory Diseases. **NIS-Child** targets children in the United States who are or will be 19–35 months old within a few weeks of the survey. Annually collected data are used to monitor vaccination coverage among 2-year-old children, including the hepatitis B birth dose, at the national, state, and selected local levels, and in some U.S. territories.

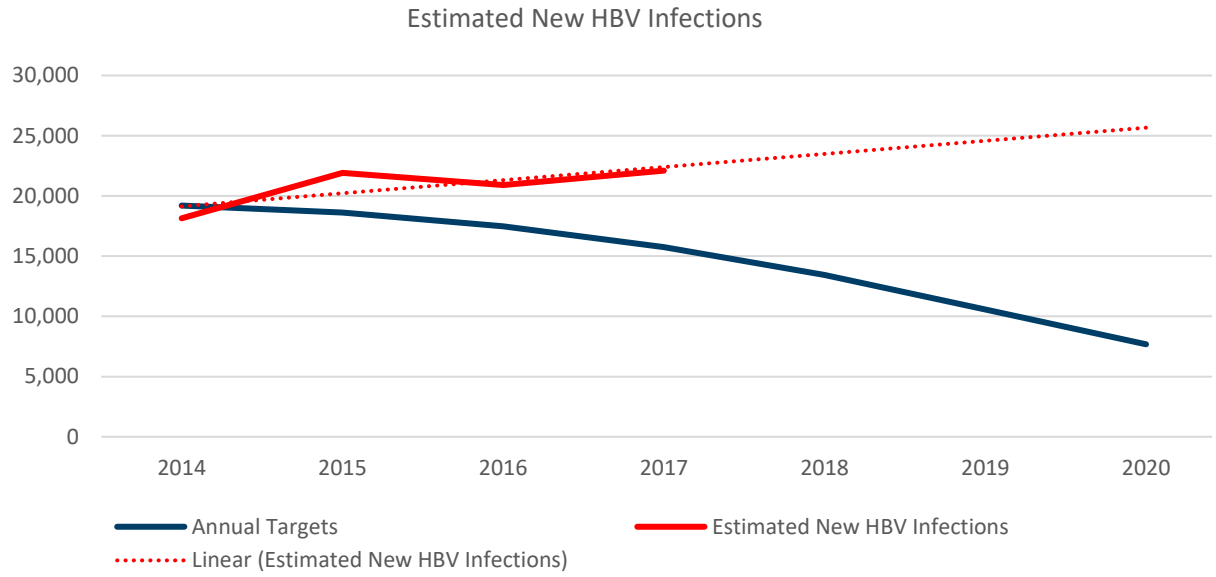
The **National Notifiable Diseases Surveillance System** (NNDSS) is a CDC program managed by its Division of Health Informatics and Surveillance that collects, analyzes, and publishes health data for approximately 120 diseases. These data, which CDC collects annually, help public health officials monitor, control, and prevent disease in the United States.

The **National Vital Statistics System** (NVSS) is the mechanism by which CDC's National Center of Health Statistics (NCHS) annually collects and disseminates the nation's official vital statistics. These data are provided through contracts between NCHS and vital registration systems operated in the various jurisdictions legally responsible for the registration of vital events – births, deaths, marriages, divorces, and fetal deaths.

GOAL 1: PREVENT NEW VIRAL HEPATITIS INFECTIONS

1. Decrease the number of new HBV infections by at least 60 percent (estimated).

	2014	2015	2016	2017	2018	2019	2020
Annual Targets*	19,200	18,624	17,472	15,744	13,440	10,560	7,680
Estimated New HBV Infections	18,142	21,905	20,917	22,100			



Source: National Notifiable Diseases Surveillance System

We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

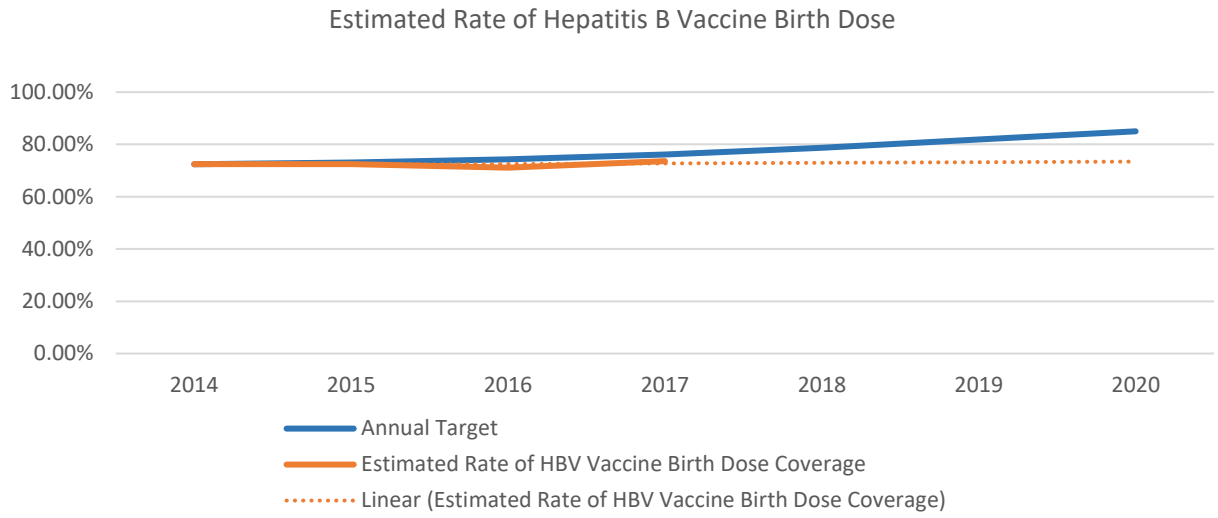
The following actions would decrease the number of new HBV infections:

- Health care providers can educate and encourage vaccination for all unvaccinated adults at risk for infection and any adult seeking protection from HBV.
- Clinics and health care providers can implement standing orders to routinely administer hepatitis B vaccine to adults who have not completed the vaccine series and make hepatitis B vaccination a standard part of evaluation and treatment for STIs and HIV.
- Delivery hospitals and birthing facilities can implement policies and procedures to ensure identification of infants born to HBsAg-positive mothers and infants born to mothers with unknown HBsAg status, initiation of prophylaxis for these infants, and routine birth dose.

* Annual targets for this indicator differ from the originals reported in the Action Plan due to updated CDC reporting after the Action Plan's publication.

2. Increase the rate of hepatitis B vaccine "birth dose" coverage to 85 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	72.40%	73.03%	74.29%	76.18%	78.70%	81.85%	85.00%
Estimated Rate of Birth Dose Coverage	72.40%	72.40%	71.10%	73.60%			



Source: National Immunization Surveys – Children

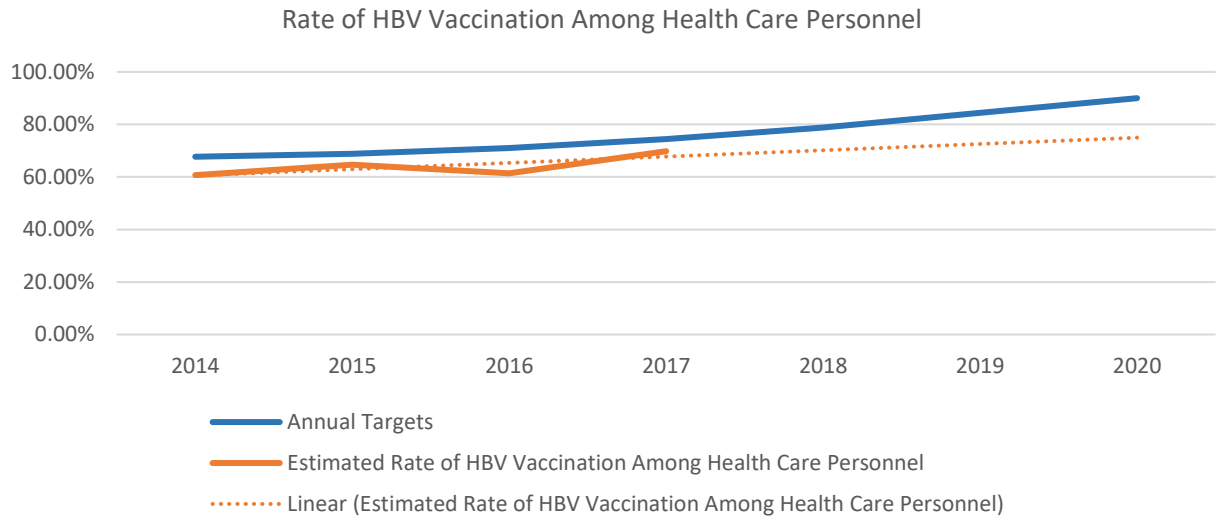
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions could increase the number of infants who receive the first dose of hepatitis B vaccine within 24 hours of birth:

- Providers can discuss birth dose vaccination during pregnancy and sign patient consent forms in advance.
- Delivery hospitals and birthing facilities can implement standing orders and electronic medical record prompts to implement universal hepatitis B vaccination within 24 hours of birth.

3. Increase the rate of hepatitis B vaccination among health care personnel to 90 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	67.70%	68.82%	71.05%	74.39%	78.85%	84.43%	90.00%
Estimated Rate of Hepatitis B Vaccination Among Health Care Personnel	67.70%	64.70%	61.40%	69.80%			



Source: National Health Interview Survey

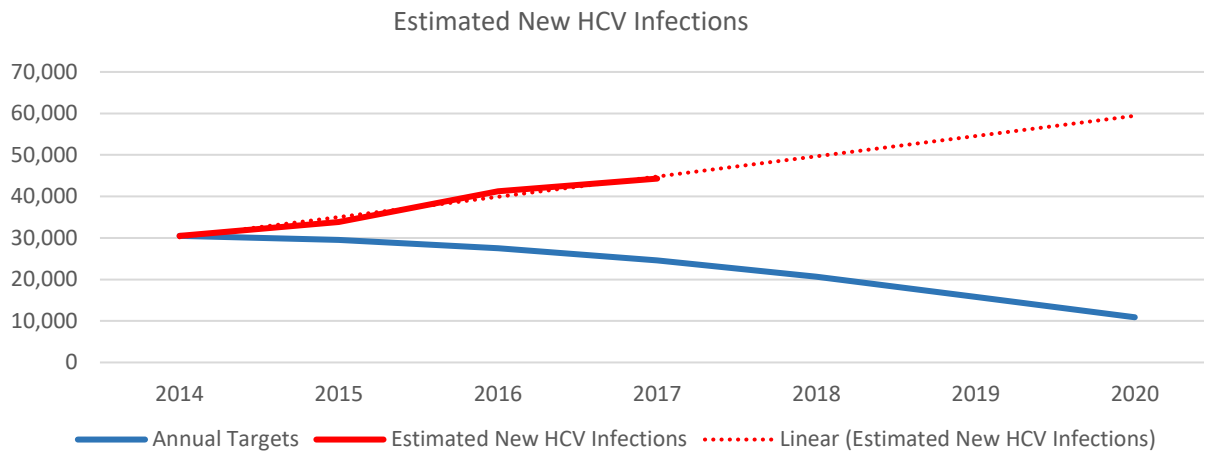
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions could have a positive impact on the rate of hepatitis B vaccination among health care personnel:

- Employers can provide hepatitis B vaccination at work sites.
- Clinics and health systems can assess hepatitis B vaccination coverage rates of staff and implement improvement efforts.

4. Decrease the number of new HCV infections by at least 60 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	30,500	29,519	27,558	24,617	20,694	15,791	10,889
Estimated New HCV Infections	30,497	33,860	41,241	44,300			



Source: National Notifiable Diseases Surveillance System

✗ We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

These actions could reduce the number of new HCV infections:

- Health care and substance use disorder providers, prevention and outreach program staff can educate individuals at risk.
- Health care and substance use disorder providers, prevention and outreach program staff can refer people who inject drugs to medication-assisted treatment, syringe services programs, and hepatitis C testing, care, treatment, and cure.
- Substance use disorder prevention and treatment program can educate staff about viral hepatitis testing recommendations and the benefits of treatment; and
- Correctional health programs can educate staff about viral hepatitis prevention and screening and linkage to care.

GOAL 2: REDUCE DEATHS AND IMPROVE THE HEALTH OF PEOPLE LIVING WITH VIRAL HEPATITIS

5. Increase the percentage of persons aware of their HBV infection by 66 percent.

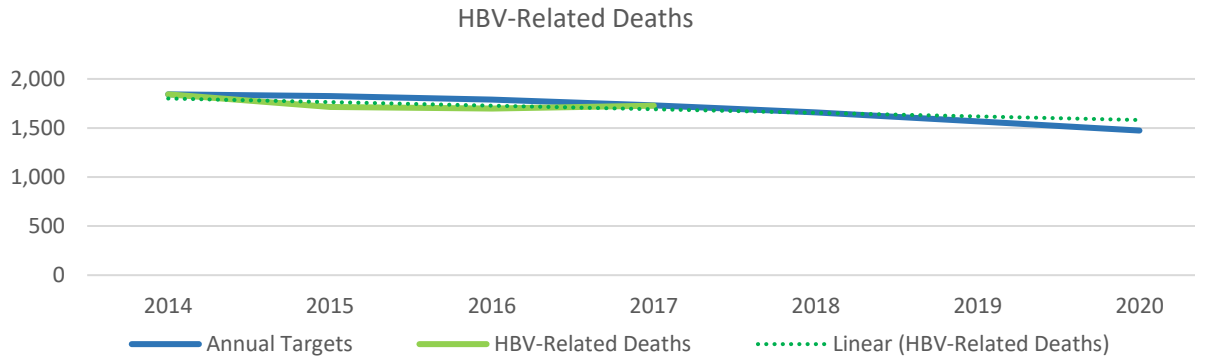
○ No data are available for this indicator.

These actions could have a positive impact on the percentage of persons aware of their HBV infection:

- Health care providers and outreach program staff can assess individuals for risk of hepatitis B and test all those at increased risk in a range of clinical and non-clinical settings.
- Clinics can develop electronic health record prompts and quality improvement activities to increase implementation of viral hepatitis screening recommendations.
- Clinics, health systems, and providers can leverage the covered preventive services that are included in most health insurance plans to expand hepatitis B screening and diagnosis.

6. Reduce the number of HBV-related deaths by 20 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	1,843	1,825	1,788	1,732	1,659	1,567	1,474
HBV-Related Deaths	1,843	1,715	1,698	1,727			



Source: National Vital Statistics System

✓ We have met the current annual target and are on track to meet the 2020 target for this indicator.

These actions could further reduce the number of HBV-related deaths:

- Identify people with chronic hepatitis B early and link them to quality care and treatment.
- Screen for hepatitis B in high-risk people, including people born in countries with 2 percent or higher hepatitis B prevalence, men who have sex with men, people who inject drugs, and incarcerated persons.
- Screen all HBsAg-positive patients with cirrhosis for HCC every six months.

7. Increase the percentage of persons aware of their HCV infection to 66 percent.

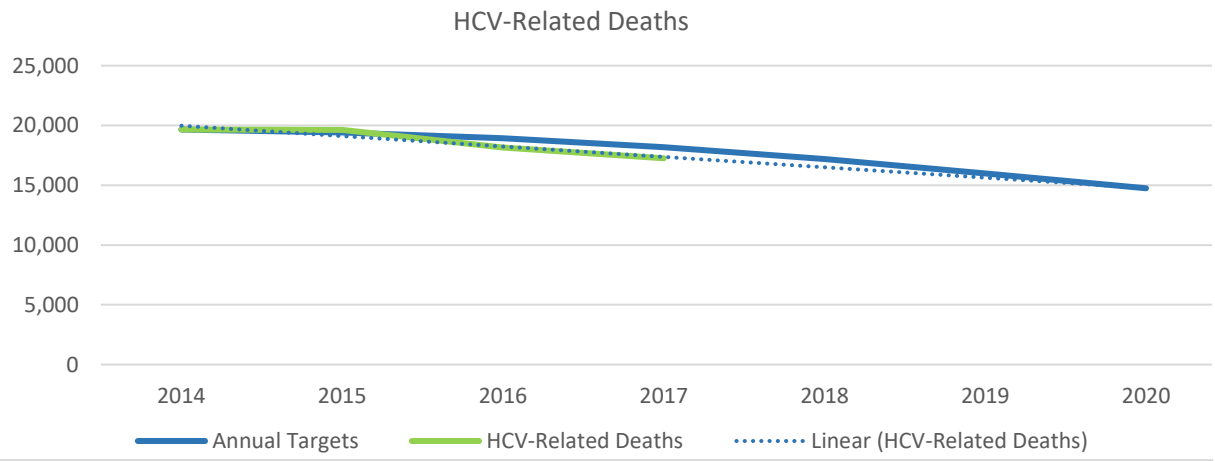
○ No data are available for this indicator.

These actions could further increase the percentage of persons aware of their HCV infection:

- Assess individuals for risk of hepatitis C and test all those at increased risk in a range of clinical and non-clinical settings.
- Increase health care provider implementation of hepatitis C screening recommendations by implementing electronic health record prompts and quality improvement activities.
- Leverage the covered preventive services that are included in most health insurance plans to expand hepatitis C screening and diagnosis.

8. Reduce the number of HCV-related deaths by 25 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	19,659	19,413	18,922	18,185	17,202	15,973	14,744
HCV-Related Deaths	19,659	19,629	18,153	17,253			



Source: National Vital Statistics System

✓ We have met the current annual target and are on track to meet the 2020 target for this indicator.

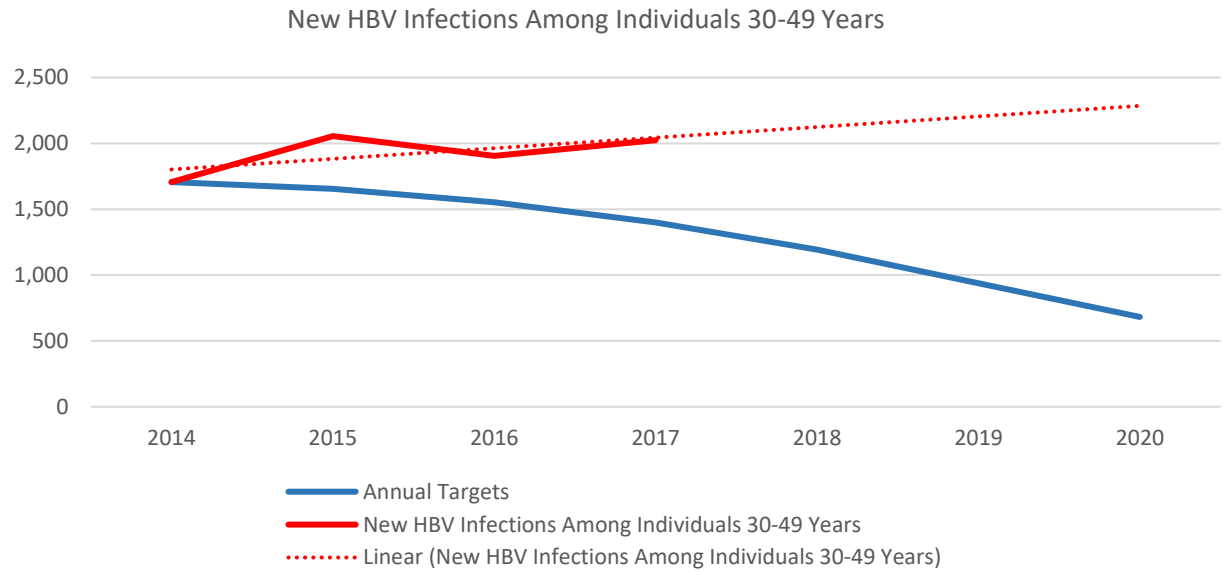
These actions can further reduce the number of HCV-related deaths:

- Identify all people infected with HCV early, link them to quality care and cure their infection.
- Screen all people with HCV-related cirrhosis for HCC every six months.

GOAL 3: REDUCE VIRAL HEPATITIS HEALTH DISPARITIES

9. Decrease the number of new HBV infections among individuals 30–49 years old by at least 60 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	1,706	1,655	1,552	1,399	1,194	938	682
New HBV Infections Among Individuals 30-49 Years	1,706	2,055	1,906	2,024			



Source: National Notifiable Diseases Surveillance System

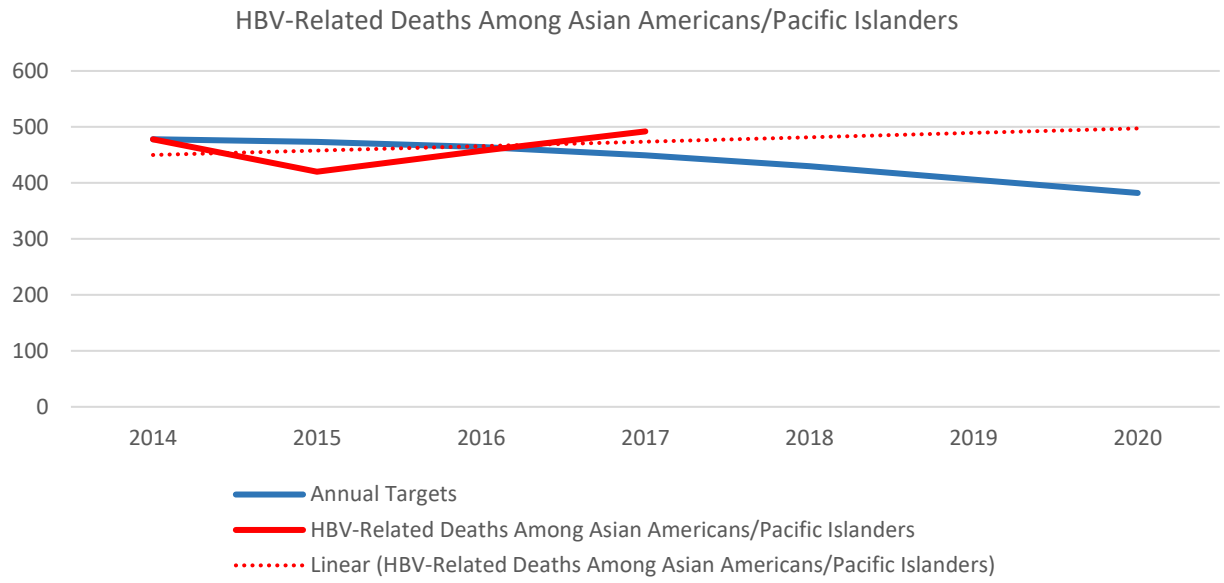
✗ We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

These actions can reduce the number of new HBV infections:

- Expand hepatitis B vaccination among susceptible adults 30–49 years old.
- Implement standing orders to administer hepatitis B vaccine as part of routine services to adults who have not completed the vaccine series and make hepatitis B vaccination a standard part of evaluation and treatment for STIs and HIV.
- Ensure that people who inject drugs receive viral hepatitis care and evidence-based prevention and treatment services.

10. Reduce the number of HBV-related deaths among Asian Americans/Pacific Islanders (AA/PI) by at least 20 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	478	473	464	449	430	406	382
HBV-Related Deaths Among Asian Americans/Pacific Islanders	478	420	457	492			



Source: National Notifiable Diseases Surveillance System

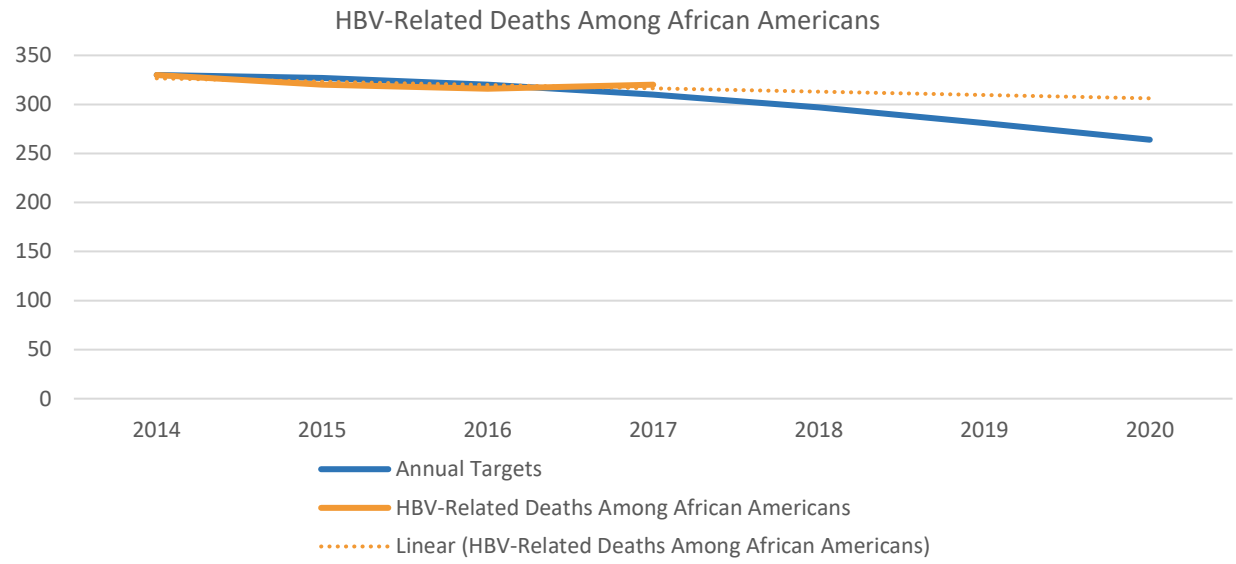
✗ We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

These actions can reduce the number of HBV-related deaths among AAPI:

- Screen for hepatitis B in high-risk persons, including persons born in countries with 2 percent or higher hepatitis B prevalence.
- Increase awareness and knowledge of health care providers to support implementation of screening recommendations.
- Use electronic health record prompts and quality improvement activities, to identify high-risk populations to be tested, linked to care, treated with antiviral agents, and virally suppressed.

11. Reduce the number of HBV-related deaths among African Americans by at least 20 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	330	327	320	310	297	281	264
HBV-Related Deaths Among African Americans	330	320	316	320			



Source: National Vital Statistics System

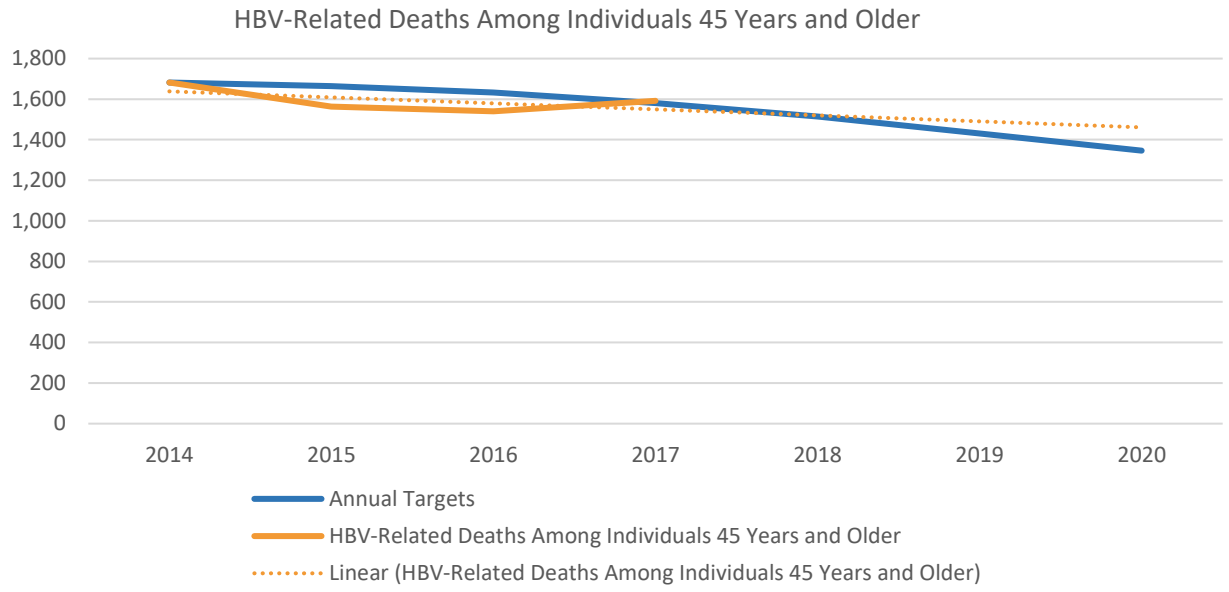
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions can reduce the number of new HBV-related deaths among African Americans:

- Increase awareness and knowledge of health care providers to support implementation of screening recommendations.
- Screen for hepatitis B in high-risk persons, including persons born in countries with 2 percent or higher hepatitis B prevalence.
- Use electronic health record prompts and quality improvement activities to identify high-risk populations to be tested, linked to care, treated with antiviral agents, and virally suppressed.

12. Reduce the number of HBV-related deaths among individuals 45 years and older by at least 20 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	1,682	1,665	1,632	1,581	1,514	1,430	1,346
HBV-Related Deaths Among Individuals 45 Years and Older	1,682	1,563	1,540	1,591			



Source: National Vital Statistics System

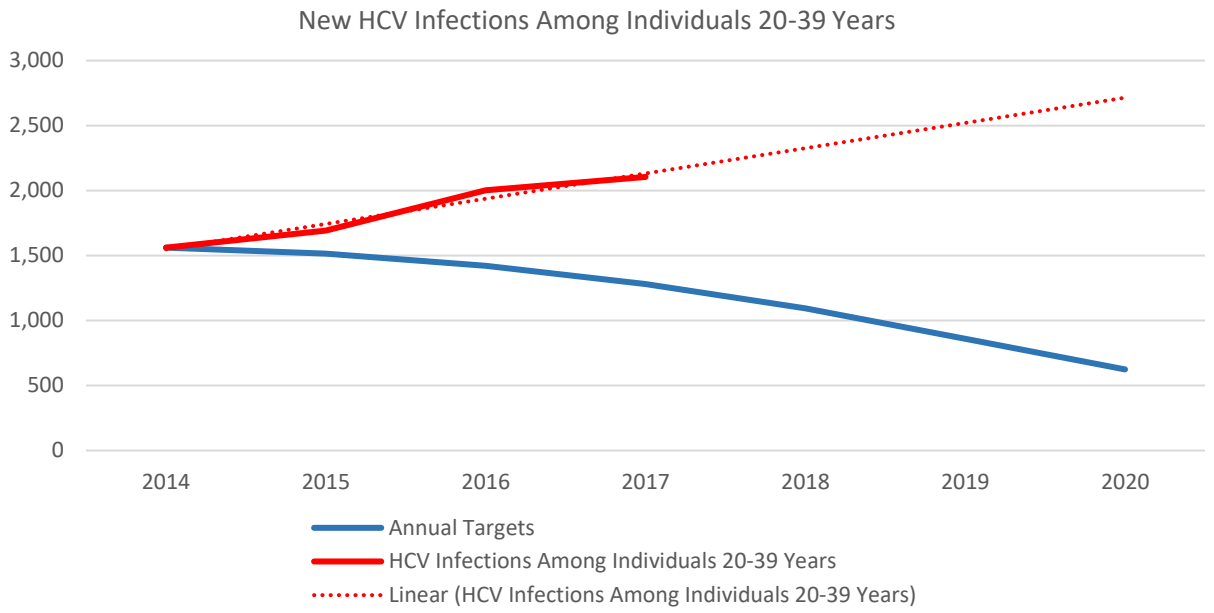
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions can reduce the number of HBV-related deaths among individuals 45 years and older:

- Screen for hepatitis B in high-risk persons, including persons born in countries with 2 percent or higher hepatitis B prevalence.
- Screen all HBsAg-positive patients with cirrhosis for HCC every six months.
- Screen HBsAg-positive adults at high risk for HCC (including Asian or black men over 40 years old and Asian women over 50 years old), persons with a first-degree family member with a history of HCC every six months.

13. Decrease the number of new HCV infections among individuals ages 20–39 years old by at least 60 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	1,561	1,514	1,421	1,280	1,093	859	624
New HCV Infections Among Individuals 20–39 Years	1,561	1,692	2,003	2,105			



Source: National Notifiable Diseases Surveillance System

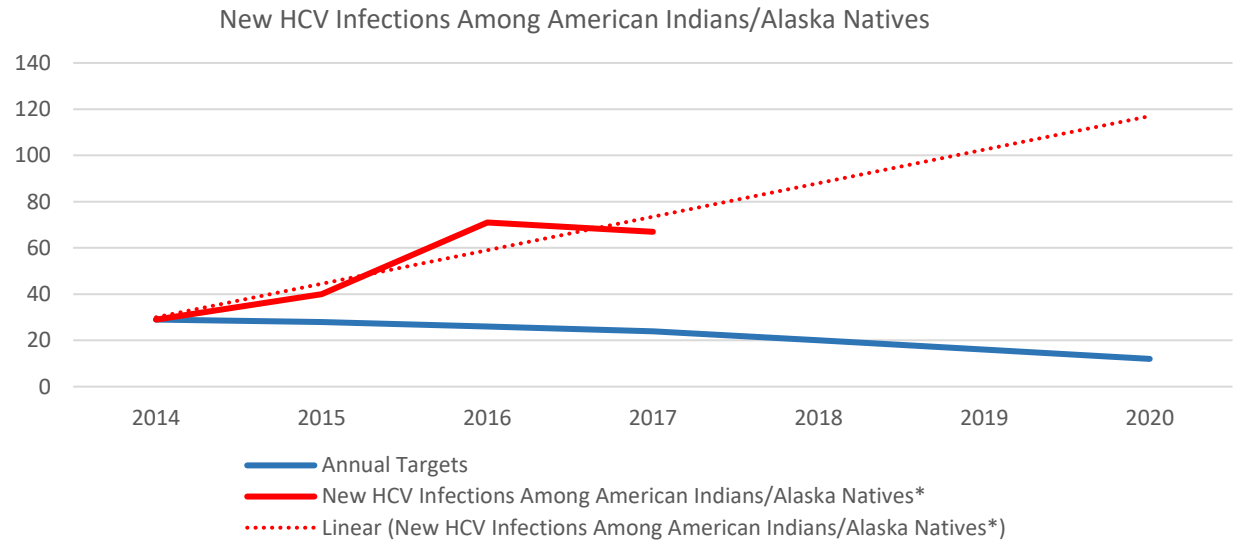
✗ We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

These actions could reduce the number of new HCV infections among individuals 20–39 years old:

- Educate people in substance use disorder prevention and treatment programs about hepatitis C testing recommendations and the benefits of treatment.
- Train health care providers to provide culturally competent and linguistically appropriate care to people who use drugs, including offering viral hepatitis prevention, screening, care, and treatment and referral to syringe services programs.
- Implement recommendations for screening, management, and treatment of viral hepatitis in jails and prison settings.

14. Decrease the number of new HCV infections among American Indians/Alaska Natives (AI/AN) by at least 60 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	29	28	26	24	20	16	12
New HCV Infections Among American Indians/Alaska Natives*	29	40	71	67			



Source: National Notifiable Diseases Surveillance System

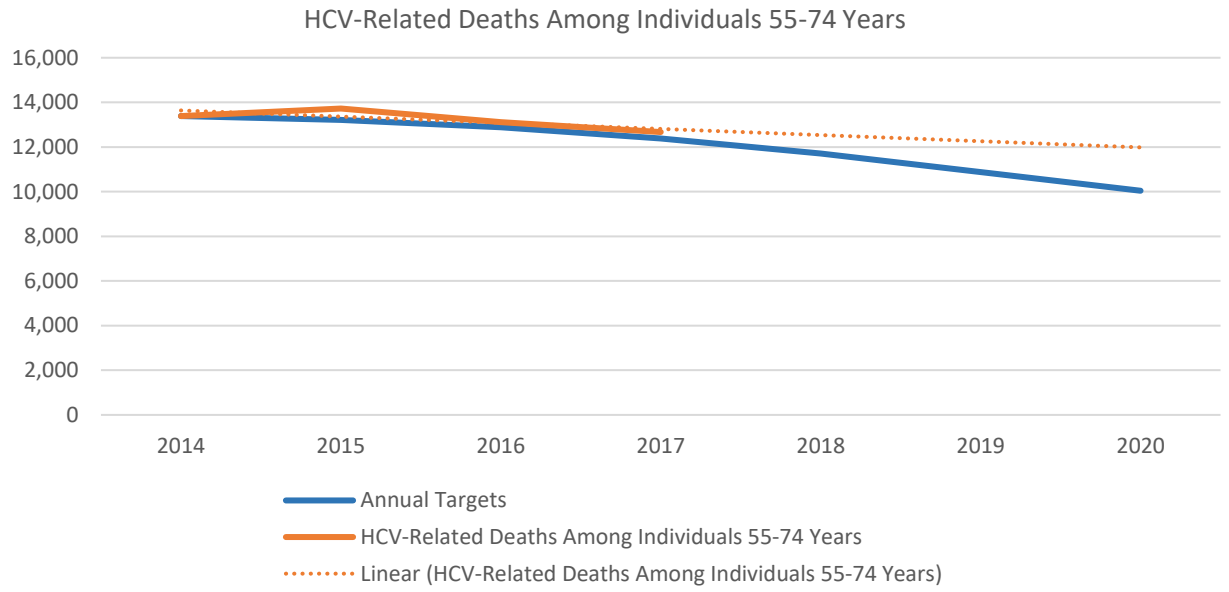
✗ We are not on track to meet the 2020 target for this indicator. Adjustments must be made to reach the 2020 target.

These actions could reduce the number of new HCV infections among AI/AN:

- Support community-driven efforts to develop culturally competent and linguistically appropriate hepatitis C prevention and care messages and materials.
- Train health care providers in the delivery of culturally competent education, counseling, screening, care, and treatment for viral hepatitis.
- Foster partnerships with organizations serving AI/AN, including tribal public health entities, AI/AN agencies, community organizations, academic institutions, and offices of minority health to raise awareness of viral hepatitis.

15. Reduce the number of HCV-related deaths among individuals ages 55–74 years by at least 25 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	13,389	13,222	12,887	12,385	11,715	10,879	10,042
HCV-Related Deaths Among Individuals 55-74 Years	13,389	13,725	13,118	12,672			



Source: National Vital Statistics System

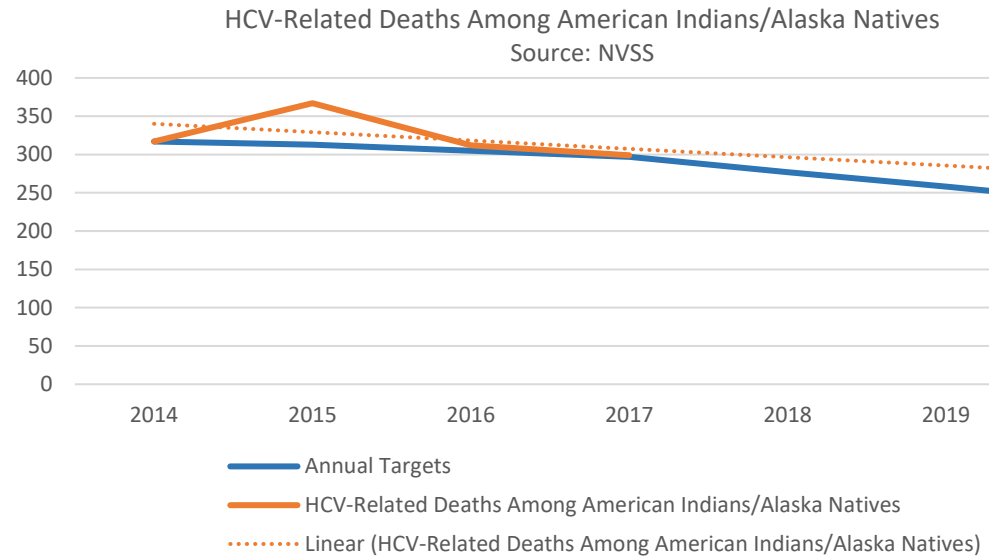
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions can further reduce the number of HCV-related deaths among individuals 55–75 years old:

- Screen all individuals born between 1945 and 1965 for hepatitis C.
- Link all people identified to care and curative treatment.
- Ensure that payer policies for hepatitis C treatment are based on scientific evidence.
- Encourage the development of innovative drug purchasing agreements to expand hepatitis C treatment.

16. Reduce the number of HCV-related deaths among American Indians/Alaska Natives (AI/AN) by at least 25 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	317	313	305	297	277	258	238
HCV-Related Deaths Among American Indians/Alaska Natives	317	367	312	299			



Source: National Vital Statistics System

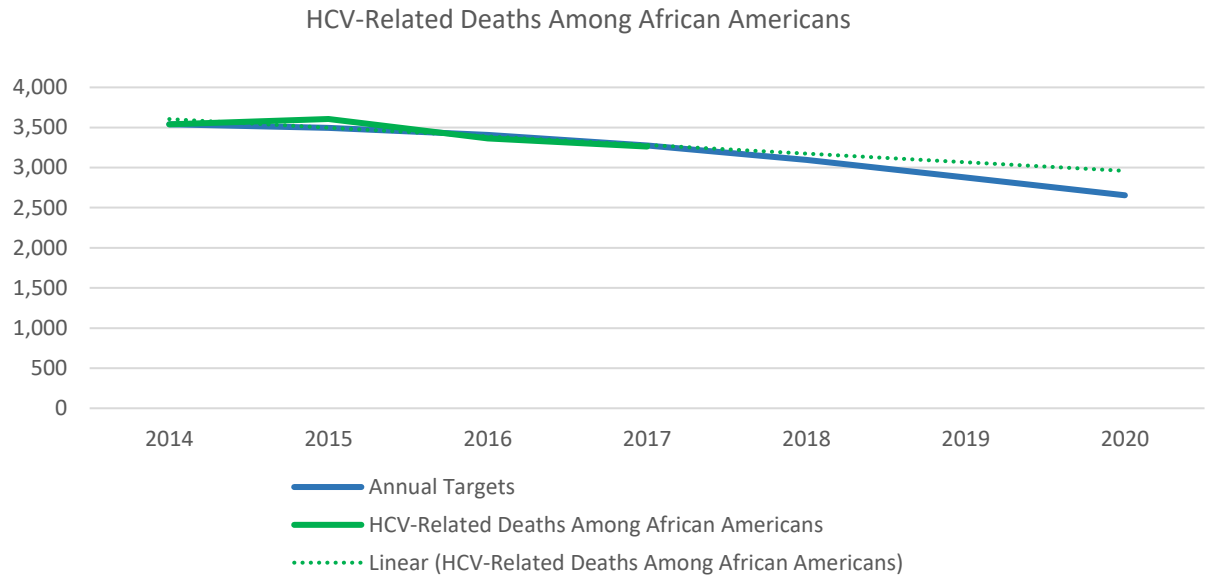
↗ We are not on track to meet the 2020 target for this indicator, but the trend is in the right direction.

These actions can further reduce the number of HCV-related deaths among AI/AN:

- Screen all AI/AN for hepatitis C.
- Link all people identified to care and curative treatment.
- Ensure that payer policies for hepatitis C treatment are based on scientific evidence.

17. Reduce the number of HCV-related deaths among African Americans by at least 25 percent.

	2014	2015	2016	2017	2018	2019	2020
Annual Targets	3,540	3,496	3,407	3,275	3,098	2,876	2,655
HCV-Related Deaths Among African Americans	3,540	3,606	3,365	3,262			



Source: National Vital Statistics System

✓ We have met the current annual target and are on track to meet the 2020 target for this indicator.

These actions can further reduce the number of HCV-related deaths among African Americans:

- Screen African Americans at risk for hepatitis C.
- Link to care and curative treatment.
- Ensure that payer policies for hepatitis C treatment are based on scientific evidence.

GOAL 4: COORDINATE, MONITOR, AND REPORT ON IMPLEMENTATION OF VIRAL HEPATITIS ACTIVITIES

There are no indicators for Goal 4. Progress is monitored using qualitative measures of collaboration and coordination across HHS agencies. Key milestones, including annual reporting on indicators and activities, are also used to monitor progress.

APPENDIX 2: FEDERAL ACTION PLAN PROGRESS

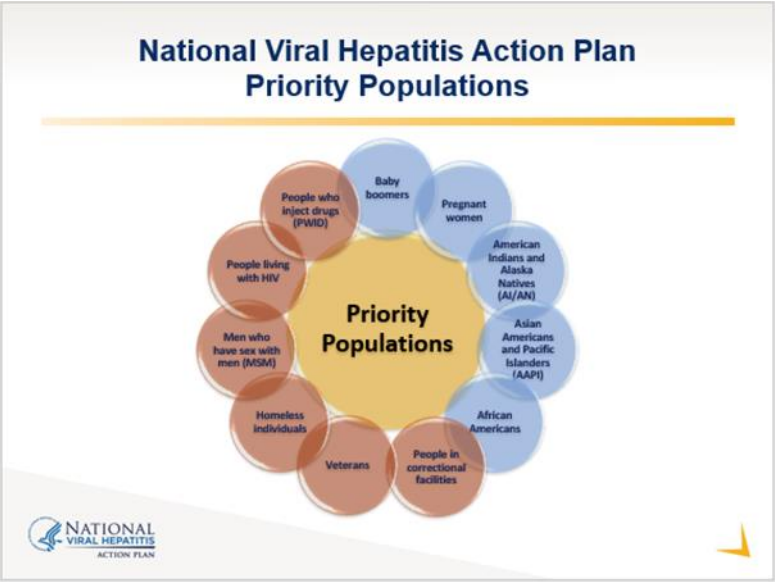
This appendix documents contributions made during FY 2017 on strategies detailed in the National Viral Hepatitis Action Plan, 2017–2020 (Action Plan). It does not provide a complete summary of all the actions agencies took that are related to Action Plan goals. For example, some agencies initiated new programs that were not anticipated at the time the Action Plan was updated.

The following information is organized by Action Plan goal and strategy. The information presented here provides only a brief snapshot of the effort that went into these actions.

Goal 1: Prevent New Viral Hepatitis Infections

Strategy 1.1: Increase community awareness of viral hepatitis and decrease stigma and discrimination

Agency	Activity
CDC	CDC enhanced public educational materials for viral hepatitis by producing various resources for consumers and professionals, such as: • Information for Healthcare Personnel Potentially Exposed to Hepatitis C Virus (HCV): Recommended Testing and Follow-up • Two Know Hepatitis B fact sheets, *Hepatitis B: Are You at Risk?* and *When Someone in the Family Has Hepatitis B* were produced in three new languages – Amharic, Arabic, and French. CDC also coordinated the Medscape Commentary: Testing, Care, and Cure of Hepatitis C Can Be Done in Primary Care.
CRD	DOJ Civil Rights Division, Disability Rights Section, received and reviewed referrals of potential hepatitis-based discrimination through direct calls and online at www.ADA.gov.
HUD	HUD's Office of Special Needs Assistance Programs continued to work with technical assistance providers to develop a public health toolkit that can be used by grantees to address viral hepatitis prevention, care, and treatment of homeless assistance grant beneficiaries.
IHS	IHS, through its tribal partnerships, supported hepatitis C community outreach and education in the form of short videos, posters, and pamphlets. All materials were designed by Native health leaders and included testimonials from patients and clinicians who treat hepatitis C, as well as more in-depth education for persons living with hepatitis C and their loved ones. An innovative text-based messaging service for hepatitis C leaders regularly notifies participants of the latest developments in the field. To see the available resources, visit http://www.npaihb.org/hcv/#Community-Resources.
HHS/OASH/OIDP	OIDP developed and hosted national webinars in collaboration with a nonfederal partner organization, the Hepatitis C Mentor and Support Group, Inc., a national organization founded to address the lack of education and supportive services for people living with hepatitis C, HIV, and liver cancer in order to raise awareness about and highlight personal stories from members of the National Viral Hepatitis Action Plan's priority populations. The Action Plan identified 11 priority populations that experience serious health disparities in hepatitis B and hepatitis C. Until these health disparities are reduced, the United States will not begin to move toward elimination of viral hepatitis. Two national webinars featured patients who are members of the priority populations and/or providers who serve them, reaching nearly 500 participants. These priority population webinar archives are available to view and serve as a resource to share and facilitate addressing viral hepatitis health disparities which affect racial and ethnic groups and groups at risk due to life circumstance and/or comorbid conditions.

Agency	Activity
	
Regional Resource Network Program (RRNP)	Region II participated in COPE Health's Hepatitis C University Summit, focused on "Overcoming Barriers to Care," in Mount Vernon, NY, in observance of National Hepatitis Testing Day. The Regional Resource Coordinator (RRC) delivered a federal update on viral hepatitis to more than 100 attendees. The purpose of the summit was to address hepatitis C infection, screening, and treatment to residents and providers of Westchester County, and it included addresses by New York State Assembly representatives Shelley Mayer and Gary Pretlow. Other discussion topics during the event were opioids and HCV, hepatitis C prevalence and new initiatives, and barriers to linkage for hepatitis C. Region II provided a grant to support both HIV and hepatitis C testing at the event. As a result of this collaboration with COPE Health, Region II has had several meetings with COPE Executive Director Gloria Searson, and together they convened a New Jersey stakeholders meeting on HIV and hepatitis C in August 2017. Region V participated in a Health to Wealth Fair, part of the Barbara Jones Slater "Show Your Greatness Weekend" in Michigan City, IN. The RRC gave welcome remarks that provided an overview of the RRNP, impact of HIV/AIDS, NHAS, PrEP, U=U, and viral hepatitis to about 108 people. Region VII collaborated with the Calvary Community Outreach Network to promote and implement KC Fun & Fitness Day in Kansas City, MO. The free event consisted of HIV testing, numerous health screenings, information and resources booths, group and individual fitness demonstrations, Double Dutch, basketball, music groups, and family activities. The RRC provided an overview of RRNP, OASH, NHAS, and the HIV epidemic and viral hepatitis. Keynote guests engaged the audience in group exercise and promoted good nutrition and fitness. There were 373 people in attendance; 3 participants tested for HIV; and 7 participants tested for hepatitis C.
SAMHSA/CSAT/ CSAP/CMHS	SAMHSA/CSAP funded 127 MAI programs (34 Minority Serving Institutions [MSI] in Partnership with Community-Based Organizations [CBO] and 93 HIV Capacity Building Initiative [HIV CBI] programs). These recipients provide an array of activities to increase community awareness of viral hepatitis utilizing SAMHSA's Strategic Prevention Framework. Recipients conducted an extensive needs assessment and strategic planning that identified and targeted high-risk racial/ethnic minority populations (ages 13 to 24) at highest risk for viral hepatitis infection. Recipients conducted hepatitis testing, hepatitis awareness events, develop social media campaigns that addressed myths, provided facts about hepatitis, and increased HCV testing. In addition, grantees provided direct education on hepatitis information using culturally appropriate survey curriculums, fact sheets, webinars and testimonials. Survey participants are evaluated on their attitudes and knowledge, as well as behavior and relationships, at baseline, exit, and follow-up, to ensure that information about hepatitis is

Agency	Activity
	attained and risky behaviors are reduced. In FY 2017, CSAP MAI programs conducted 455 educational events and awareness activities. Recipients were allowed to use up to 30 percent of their award for these activities. The total amount available for these activities in FY 2017 was $10,871,179. SAMHSA/CSAT TCE – HIV and programs (MAI/TCE-HIV) have marketed themselves in the communities identified in their grant application. Grantees are required to provide hepatitis testing and services. Stigma and cultural competency-related technical assistance through contractors (Addiction Technology Transfer Centers) have been utilized to address stigma and discriminatory-related concerns. MAI-funded programs are directed to share educational resources and identify evidence-based methods to increase hepatitis A and hepatitis B vaccination rates and linkage to medical treatment for hepatitis C. Additionally, CSAT has established a workgroup to discuss and determine ways to reduce hepatitis B-related stigma in high-risk target communities.
VA/SCSSCS/HIV, Hepatitis and Related Conditions Programs	VA placed a national campaign promoting testing for and treatment of hepatitis C that featured Veterans who have been cured by VA and included advertising on billboards and bus interiors and tails in 18 cities. Advertising placements across the 18 sites yielded over 47 million impressions, with increases in website traffic and HCV screening and increased treatment rates at many VA health care facilities. Nationally, about 3.6 million Veterans and their families were reached through ads placed in the six Veteran-focused magazines.

Strategy 1.2: Build capacity and support innovation by the health care workforce to prevent viral hepatitis

Agency	Activity
HHS/OASH/OPA	The National Clinical Training Center for Family Planning (NCTCFP) offers training to Title X providers on *Providing Quality Family Planning Services (QFP): Recommendations of CDC and U.S. Office of Population Affairs (OPA), MMWR* (April, 2014, 63), which recommends that routine hepatitis B vaccination should be offered to all unvaccinated children, adolescents, and adults who are unvaccinated and do not have any documented history of hepatitis B infection. QFP also recommends that testing for hepatitis C is performed based on known risk factors and clinical indication of HCV infection.
HRSA BPHC	HRSA BPHC awarded AIMS funding. The AIMS funding provided $200 million to nearly 1,200 health centers to expand mental health and substance use disorder services, including access to medication-assisted treatment. Prevention and treatment of substance use disorders and injection drug use will prevent new hepatitis C infections.
HRSA HAB	Throughout 2017, HRSA-funded AIDS Education and Training Centers continued to provide clinical training and clinical consultation on the screening and treatment of HBV and HCV for co-infected people with HIV.

Strategy 1.3: Address critical data gaps and improve viral hepatitis surveillance

Agency	Activity
CDC	In May 2017, CDC's viral hepatitis program funded 14 awardees through the cooperative agreement, Strengthening Surveillance in Jurisdictions with High Incidence of Hepatitis C Virus and Hepatitis B Virus Infections (CDC-RFA-PS17-1703). Over the four-year project period, funds will be used to improve active surveillance of HCV and HBV in statewide jurisdictions by enabling jurisdictions experiencing high rates of new cases of HCV and/or HBV infections to engage directly with providers, laboratories, and patients to obtain more complete viral hepatitis case information.
CDC	With support from CDC's viral hepatitis program, the Association of State and Territorial Health Officials funded 20 state health agencies to develop state-specific viral hepatitis epidemiological profiles to increase public and professional awareness of viral hepatitis prevention, care, and planning.

Agency	Activity
IHS	IHS has developed a nationally standardized measure for HCV screening among persons born 1945–1965. In addition, HCV liver-staging and cascade measures (Ab and RNA status, metavir, treatment monitoring and outcomes) for local patient management have been developed. Additional options for tracking related variables (HCV risk factors, total HCV drug prescriptions, hepatocellular cancer screening and interventions) are under consideration by IHS in terms of technical feasibility and implementation.
SAMHSA/CSAT/ CSAP/CMHS	Through SAMHSA/CSAT MAI, rapid HIV and hepatitis testing forms were completed by 14,641 clients in the MAI/TCE program. Within SAMHSA/CSAT there are 108 MAI-funded TCE-HIV grantee programs. Each grantee is encouraged to test their clients for hepatitis B and hepatitis C by using up to 5 percent of their annual award funds for antibody and confirmatory testing; viral hepatitis A and viral hepatitis B vaccination, purchase of test kits and other required supplies, and staff training to enhance knowledge of hepatitis disease and testing protocols. Treatment, education, and prevention services have addressed access and barriers to service concerns by providing access to optimal health care.
VA/SCSSCS/HIV, Hepatitis, and Related Conditions Programs	VA developed the Hepatitis C Clinical Dashboard and Hepatitis C Clinical Data Cube. The Data Cube makes epidemiologic data for patients with HCV receiving care in VA more broadly accessible at the Veterans Integrated Services Network (VISN), facility, and provider levels, while providing treatment-related clinical and lab data, helping providers identify gaps in treatment for current patients. As of the end of CY 2017, Hepatitis C Clinical Data Cube was in development and in production as of 2019. The HCV Clinical Dashboard is another national, clinical data tool used in VA to monitor and organize workflow to follow HCV patients more appropriately for both clinical and population management at the facility level.

Strategy 1.4: Achieve universal hepatitis A and hepatitis B vaccination for children and vulnerable adults

Agency	Activity
HHS/OASH/OPA	HHS's QFP recommends routine hepatitis B vaccination should be offered to all unvaccinated children, adolescents and adults who are unvaccinated and do not have any documented history of hepatitis B infection. QFP also recommends testing for hepatitis C is performed based on known risk factors and clinical indication of HCV infection.
HRSA HAB	In 2017, HRSA's Ryan White HIV/AIDS Program-funded clinical providers vaccinated people with HIV against HAV and HBV, as clinically appropriate. These efforts support the national effort to ensure HAV and HBV vaccination.
SAMHSA/CSAT/ CSAP/CMHS	SAMHSA/CMHS MAI-CoC grant program provides for the integration of vaccination services (and testing) for individuals with, or at risk for, mental and substance use disorders, and living with, or at risk for, HIV and hepatitis, including racial and ethnic minority communities. In FY 2017, among 34 grantees, the program completed vaccination for hepatitis A, hepatitis B or hepatitis A and B, as appropriate, for 75 individuals, and partial vaccinations for 163. For the three-year effort to date, 175 hepatitis vaccinations have been completed, and 458 are partially complete, with a one-year timeframe remainder to attain completion. This activity is integrated in services for mental and substance use disorder treatment and prevention. Grantees deliver services in local partnerships, often including HRSA/Ryan White programs. The MAI-CoC grant is a CSAT, CSAP, and CMHS program with braided funding, including data collection.
VA/SCS/ HIV, Hepatitis, and Related Conditions Programs	In light of recent outbreaks of HAV, VA promoted HAV susceptibility testing and immunization to Veterans enrolled in VA care, particularly homeless Veterans.

Strategy 1.5: Eliminate mother-to-child transmission of hepatitis B and hepatitis C

Agency	Activity
HHS/OASH/OPA	As a part of preconception health services, HHS's QFP recommends that providers screen for immunization status in accordance with recommendations of CDC's Advisory Committee on Immunization Practices and offer vaccination, as indicated, or provide referrals to community providers for immunization.
HRSA BPHC	HRSA BPHC launched the Perinatal Hepatitis B (HBV) ECHO in January 2017. The goal of the HBV ECHO is to provide technical assistance to health centers for reducing mother-to-child transmission of HBV using the Project ECHO model. Health centers currently participate in HBV ECHO by presenting patient cases of pregnant women with chronic HBV infection to HBV specialists; sharing strategies for managing at-risk women and children; and participating in discussions with leading HBV experts.
AHRQ	AHRQ supported the dissemination of U.S. Preventive Services Task Force (USPSTF) *Screening for Hepatitis C Virus Infection in Adolescents and Adults* and screening for hepatitis B among pregnant women. This is a multistep process that begins with the USPSTF drafting and finalizing the research plan, developing a draft evidence review and recommendation statement, finalizing the evidence review, and releasing a final recommendation statement. The process continued in 2017.
CDC	CDC's Department of Viral Hepatitis (NCHHSTP) funded five health departments under the Perinatal Hepatitis B Prevention Program - Auxiliary Prevention Projects (CDC-RFA-PS16-1602). These projects facilitated the success of current immunization practices to prevent mother-to-child transmission of hepatitis B through (1) improved identification of hepatitis B-infected pregnant women for Perinatal Hepatitis B Prevention Program case management and prophylaxis of their infants, (2) increased proportion of case-managed infants born to hepatitis B-infected women receiving post-vaccination serologic testing, and (3) collection of demographic and clinical data, including data on maternal antiviral therapy, for ascertainment of factors associated with perinatal hepatitis B transmission and vaccine response.
CDC	CDC's NCIRD, Immunization Services Division, continued to fund Perinatal Hepatitis B Prevention Programs among the 64 recipients of Immunizations and Vaccines For identified Children Awards (CDC-RFA-IP113-1301). These programs seek to prevent mother-to-child transmission of hepatitis B virus by (1) identifying HBsAg-positive pregnant women, (2) ensuring HBV-exposed infants receive post-exposure prophylaxis, (3) ensuring identified HBV-exposed infants complete the ACIP recommended hepatitis B vaccine series, and (4) ensuring vaccinated HBV-exposed infants receive post-vaccination serologic testing. For the 2017 birth cohort, 97% received post-exposure prophylaxis at birth, 82% received post-exposure prophylaxis and completed hepatitis B vaccine series by 12 months, and 66% of all case-managed infants completed PVST.

Strategy 1.6: Ensure that people who inject drugs have access to viral hepatitis prevention services

Agency	Activity
CDC	CDC continued to support the National Association of County and City Health Officials to work with local health departments in southwestern Virginia to develop a model plan for addressing the syndemics (synergistic epidemics) of opioid abuse, HBV, HCV, and HIV through comprehensive, integrated prevention and harm-reduction services. Linkage to care and treatment for those in need will also be addressed. Through community engagement, the plan will address how services can be offered and adapted to meet the needs of rural and suburban communities. The goal of this project is to create model practices that can be adapted and implemented by local health departments across the country.

Agency	Activity
IHS	The IHS National Committee on Heroin, Opioids and Pain Efforts (HOPE) works with tribal stakeholders to promote appropriate and effective pain management, reduce overdose deaths from heroin and prescription opioid misuse, and improve access to culturally appropriate treatment. The committee utilizes a variety of methods including development of policy instruments, sharing best practices to improve patient outcomes, expanding access to medication-assisted treatment, and developing harm reduction techniques to mitigate impacts associated with IV drug use.
SAMHSA/CSAT/ CSAP/CMHS	The SAMHSA/CMHS MAI-CoC grant program provided hepatitis prevention services to individuals who inject opioids and other drugs through supplemental funding of *Advancing Prevention and Care Services (APCS) in At-Risk Urban Communities*. Eleven grantees expanded partnerships to include syringe services programs to increase access to prevention and treatment for hepatitis, HIV, and mental health disorders. Among these grantees, in FY 2017, 1,968 individuals were referred or linked to hepatitis prevention services and 3,835 individuals for the three-year grantee program period through FY 2017. (Note: The data for APCS is a considered a subset of the overall MAI-CoC data, as reported in other items.)

Strategy 1.7: Reduce the transmission of viral hepatitis in health care settings among patients and health care workers

Agency	Activity
CDC	CDC released, in collaboration with NIH, updated testing and follow-up recommendations for the management of potential occupational exposures to HCV. The algorithm aligns with current laboratory guidance and updates the 2001 HCV testing algorithm for health care personnel.
NIH	To improve blood donor selection criteria and to aid public health surveillance, a study funded by the NHLBI assessed prevalence of hepatitis B and hepatitis C viruses as well as HIV among blood donors in South Africa by demographic and geographic characteristics. It was found that HIV prevalence was about 18-fold lower and HBV prevalence 5-fold lower than that of the general population of South Africa, attesting to the success of blood donor selection and screening. This difference needs to be accounted for in extrapolating data from blood donors directly to the general population, but comparisons between donor subgroups or periods might still mirror population data.

Strategy 1.8: Conduct research leading to new or improved viral hepatitis vaccines, diagnostic tests, and treatments, and the optimal use of existing tools to prevent, detect, and treat viral hepatitis

Agency	Activity
FDA	FDA has taken steps and proposed to down-classify certain HIV tests, hepatitis C virus antibody tests, and nucleic acid-based hepatitis C ribonucleic acid tests from Class III to Class II. Currently, these HIV and hepatitis C tests are Class III devices that require a Premarket Approval Application (PMA). Reclassification to Class II, as proposed, would mean the devices would be subject to a Premarket Notification (510(k)) and special controls, and would reduce the regulatory burdens associated with these devices.
NIH	NIAID is conducting a double-blinded, randomized, Phase I/II trial to evaluate the safety, immunogenicity, and initial efficacy of a vaccine to prevent acute and chronic hepatitis C infection in high-risk people. Five hundred and forty-eight participants have received either the vaccine or placebo and are now in follow-up. NIAID research has helped advance the development of new therapeutic agents against HCV, such as SB 9200, found to be effective against both HBV and HCV. NIAID also continues to support the Hepatitis C Cooperative Research Centers, dedicated to defining successful immune response to HCV infection and developing effective vaccine and immune therapy strategies, including analysis of neutralizing antibodies against HCV.

Agency	Activity
NIH	NIAID is supporting HBV animal models that include a transgenic mouse model and a woodchuck infection model, both considered gold standards for preclinical HBV drug studies. Several promising therapeutic candidates from companies, universities, and the in vitro screening program sponsored by NIAID are being evaluated in these models, including AIC649, an inactivated parapoxvirus particle that was tested for the treatment of HBV in a woodchuck model with promising results. The availability of a small-animal model would provide an enormous benefit to research the pathogenesis, prevention, and treatment of hepatitis B and hepatitis C. Several such models have been developed by investigators funded by NCI, NIAID, and NIDDK and are being used in studies of both viral infections. Mice with humanized livers can be infected with HBV or HCV, which allows the study of the early events that occur in the liver during infection that lead to cell injury, recovery, or chronic infection. This mouse model has been available to evaluate anti-HCV agents in development through a contract supported by NIAID. In 2016, the model was made available for anti-HBV studies.
NIH	NICHD, in collaboration with CDC, funded a cooperative agreement to conduct a clinical trial of tenofovir disoproxil fumarate (TDF) to prevent transmission of hepatitis B from HBeAg-positive women with high levels of HBV DNA to their infants in Thailand. The hypothesis of this study was that a potent antiviral such as tenofovir would decrease HBV DNA levels in infected pregnant women and thereby reduce the risk of perinatal transmission (which has been found to be as high as 12 percent in previous studies). Pregnant women participating in this study received tenofovir or placebo during the last trimester of pregnancy and two months postpartum. All newborns received HBV vaccination and HBIG at birth. The results, recently published in the *New England Journal of Medicine*, showed no cases in the newborns of mothers treated with tenofovir compared to 2 percent in those whose mothers received placebo. This difference was not statistically significant, but the reason was the low rate of transmission in this study, probably because in the setting of a controlled trial, the newborns received optimal standard treatment with vaccine and HBIG.

Goal 2: Reduce Deaths and Improve the Health of People Living with Viral Hepatitis

Strategy 2.1: Build the capacity of the health care workforce to diagnose viral hepatitis and provide care and treatment to persons living with chronic viral hepatitis

Agency	Activity
HRSA BPHC	BPHC and HAB provided a webcast to health center grantees and BPHC cooperative agreements titled "Eliminating Hepatitis C: What Health Centers Can Do." The presentation included an update on the epidemiology of hepatitis C, the call to action by the National Hepatitis Action Plan, the hepatitis C care cascade, and the role of health centers in testing for hepatitis C and treating patients. Examples of promising practices from health centers were provided. HAB spoke to the frequent comorbidities of HIV and hepatitis C infections and launched a new initiative, "A Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV."
HRSA BPHC	BPHC partnered with the National Center for Health in Public Housing (NCHPH) to provide training and technical assistance and to develop a hepatitis B and hepatitis C toolkit for health centers providing primary care services to residents of public housing.
HRSA HAB	Throughout 2017, HRSA-funded AETCs continued to provide clinical training and clinical consultation on HBV and HCV for co-infected people with HIV, including P4C co-infection webinars. AETCs launched an evidence-based online curriculum for health care providers and trainers of health care providers to increase their knowledge on HIV and hepatitis C co-infection among people of color.
HRSA HAB	HRSA's Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV, funded through the 2017 Secretary's Minority AIDS Initiative Fund, awarded two academic centers for a three-year project intending to improve care for PWH thought the development of comprehensive jurisdiction-level HCV screening, care, and treatment systems and the enhancement of state and local health department surveillance systems to increase capacity to monitor acute and chronic co-infections of HIV and HCV. Additionally, this project aims to improve coordination with SAMHSA-funded substance use disorder (SUD) treatment providers to deliver mental health and SUD treatment support to achieve treatment completion, prevent HCV infection, and prevent re-infection.
HRSA HAB	HRSA's Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV, funded through the 2016 Secretary's Minority AIDS Initiative Fund, awarded three Ryan White HIV/AIDS Program (RWHAP) Part A recipients (New York City, Hartford, and Philadelphia), and two RWHAP Part B recipients (Louisiana and North Carolina) through the National Alliance of State and Territorial AIDS Directors for a three-year project intending to improve jurisdiction-level HCV screening, care, and treatment systems; identify existing barriers to care (for both patients and providers); increase the capacity of HCV state and local surveillance systems; and better define the HCV care continuum in the RWHAP.
IHS	In conjunction with tribal and university partnerships, IHS facilities can participate in any of five monthly HCV telehealth programs to consult with specialists. Over 250 patients were presented in FY 2017, with participation from over 20 states and an estimated 200 clinicians. The number of telehealth clinics grew from two to five in FY 2017. These programs employ the ECHO model that allows clinicians to do remote case-based learning to treat patients locally, which is critical for most IHS clinics that are located far from any specialist. Preliminary results of ECHO participants showed that 60 percent of attendees started their HCV clinic subsequent to being linked to an HCV ECHO. Multiple in-person regional HCV trainings have trained clinicians, and the success of this model was replicated in more regions in 2018. In addition, dozens of HCV related clinical questions were answered via an HCV warmline operated by a University partnership.

Agency	Activity
SAMHSA/CSAT/CSAP/CMHS	The SAMHSA/CSAT TCE-HIV program has built the capacity of the grantee workforce to diagnose viral hepatitis and provide care and treatment to persons living with chronic viral hepatitis through a hepatitis-specific session at the all-grantee meeting held April 4–6, 2017. Sessions included *Hepatitis Prevention Messages Made Easy* and *Intersections of Viral Hepatitis and Recovery*. In addition, grantees were provided webinars such as *Hepatitis B and C: Testing, Linkages, and Referrals* on October 16, 2016, as well as being linked to the SAMHSA/Addiction Technology Transfer Centers (ATTC) viral hepatitis webinars and to hepatitis-related webinars announced on HIV.gov.
VA/SCS/HIV, Hepatitis, and Related Conditions Programs	VA's National Hepatitis B (HBV) Working Group has developed a national plan of action to address HBV across the system, including the identification of indicators for quality of care for HBV based on current professional society guidelines and scientific evidence. The working group identified several informatics tools which will be helpful to address gaps in care and aid frontline providers in the care and monitoring of patients with HBV. The working group also took part in the development and planning of various HBV educational materials and training opportunities in FY 2017.

Strategy 2.2: Identify persons infected with viral hepatitis early in the course of their disease

Agency	Activity
HRSA HAB	HRSA's Ryan White HIV/AIDS Program-funded clinical providers screen, link, and treat people with HIV who are co-infected with HBV and HCV, in accordance with the national guidelines.
HRSA HAB	HRSA staff enhanced coordination and the availability of federal, state, and community resources in Scott County, Indiana, to provide linkage to HIV/hepatitis care and prevention services. Through the AIDS Education and Training Center, training was provided to a Scott County-based private physician and to the local health department staff on HIV testing, outreach, and case monitoring.
IHS	IHS continued to implement wider use of clinical decision support/electronic reminders. HCV screening among persons born 1945–1965 can be flagged among patients who have no recorded HCV test. In 2012, the year the national screening recommendation was released, screening coverage of the birth cohort was 8 percent; in 2017, coverage was 54 percent.
SAMHSA/CSAT/CSAP/CMHS	SAMHSA/CMHS MAI-CoC program provides for the integration of hepatitis testing (and vaccination) services for individuals with or at risk for mental and substance use disorders, and living with or at risk for HIV and hepatitis, including racial and ethnic minority communities. In FY 2017, among 34 grantees, the program completed testing for hepatitis C for 6,938 individuals, with 687 testing positive. During the three-year period, a total of 15,874 persons were tested for hepatitis C, with 1,796 testing positive. For hepatitis B, 521 were tested, with 7 testing positive in FY 2017. During the past three years, 1,138 persons were tested and 27 were positive. This activity is integrated in services for mental and substance use disorder treatment and prevention. Grantees deliver services in local partnerships, often including HRSA's Ryan White programs. Note: The MAI-CoC is a grant program including SAMHSA's Centers for Substance Abuse Treatment, Prevention and Mental Health Services, with braided funding, including data collection.
VA/SCS/HIV, Hepatitis, and Related Conditions Programs	From January to December 2017, VA increased HCV birth cohort screening rates among Veterans enrolled in VA care from 78.8 percent to 80.1 percent.

Strategy 2.3: Improve access to and quality of care and treatment for persons infected with viral hepatitis

Agency	Activity
CDC	CDC funds three sites under the *Community-Based Programs to Test and Cure Hepatitis C* (CDC-RFA-PS14-1413) program to build health care capacity to diagnose and cure HCV infection through implementation of a package of services in a target population with HCV-related health disparities. A coalition of key stakeholders (e.g., health departments, specialists in HCV care, and primary care providers) was funded to develop and implement these services. Expected outcomes include increased primary care provider capacity to diagnose and cure HCV infection (including increased use of electronic medical records); increased availability of population-level data (for assessment of community impact); and meeting or exceeding targets for testing (i.e., at least 10,000 persons), diagnosis, and cure.
CDC	CDC awarded $5.7 million over a four-year project period (2017–2020) to state and local health departments in 46 U.S. states, three cities, and the District of Columbia. The cooperative agreement, *Improving Hepatitis B and C Care Cascades: Focus on Increased Testing and Diagnosis* (CDC-RFA-PS17-1702), supports activities to increase the number of persons living with HBV and/or HCV infection who are tested for these infections and made aware of their infection status and links to care and treatment services, if needed. Program intervention and activities were developed so that they are accessible and available to health care professionals and members of priority populations. At least 200 partnerships were established with organizations serving high HBV/HCV prevalence populations to implement and evaluate intervention(s) to improve viral hepatitis testing and detection, and to facilitate linkage to care and treatment.
CMS	The CMS Division of Pharmacy continues to monitor state Medicaid program policies, providing technical assistance to states and their contractors on methods to consider that may better manage spending for hepatitis C drug treatment. These include, but are not limited to, some which link value and outcomes to cost, thereby shifting some risk to the manufacturer, and/or other models that allow the state to treat more patients without exceeding a predetermined upper limit of expenditures.
FDA	The FDA Center for Drug Evaluation and Research approved supplemental applications for Sovaldi (sofosbuvir) and Harvoni (ledipasvir and sofosbuvir) to treat hepatitis C virus (HCV) in children ages 12 to 17. Harvoni and Sovaldi were previously approved to treat HCV in adults. These are the first approved direct-acting antiviral treatments that address an unmet need to provide treatment options for six major genotypes of HCV in children and adolescents.
FDA	The FDA Center for Drug Evaluation and Research approved sofosbuvir/velpatasvir/voxilaprevir (SOF/VEL/VOX) (Vosevi) FDC, an interferon-free, complete regimen for adult patients with chronic hepatitis C virus (HCV) infection without cirrhosis or with compensated cirrhosis (Child-Pugh A) who have: genotype 1, 2, 3, 4, 5, or 6 infection and have previously been treated with an HCV regimen containing an NS5A inhibitor; and genotype 1a or 3 infection and have previously been treated with an HCV regimen containing sofosbuvir without an NS5A inhibitor. The FDA granted this application Priority Review and Breakthrough Therapy designations.
FDA	The FDA Center for Drug Evaluation and Research approved Mavyret (glecaprevir and pibrentasvir) to treat adults with chronic hepatitis C virus (HCV) genotypes 1–6 without cirrhosis or with mild cirrhosis, including patients with moderate to severe kidney disease and those who are on dialysis. Mavyret is also approved for adult patients with HCV genotype 1 infection who have been previously treated with a regimen either containing an NS5A inhibitor or an NS3/4A protease inhibitor but not both. Mavyret is the first treatment of eight weeks duration approved for all HCV genotypes 1–6 in adult patients without cirrhosis who have not been previously treated. This approval provides a shorter treatment duration for many patients. The FDA granted this application Priority Review and Breakthrough Therapy designations.

Agency	Activity
HRSA BPHC	HRSA BPHC continued to award AIMS funding. The AIMS funding provided $200 million to nearly 1,200 health centers to expand mental health and substance use disorder services, including access to medication-assisted treatment. Prevention and treatment of substance use disorders, in particular, injection drug use, will prevent new hepatitis C infections. Health centers will improve the quality of care provided to patients with viral hepatitis by integrating mental health and substance use disorder, viral hepatitis and primary care.
HRSA BPHC	HRSA BPHC continued the Opioid Addiction Treatment (OAT) ECHO**.** The goal of the OAT ECHO is to improve and expand the delivery of substance use disorder services in health centers, with a specific focus on opioid use disorder. Health centers will improve the quality of care provided to patients with viral hepatitis by integrating mental health and substance use disorder, viral hepatitis, and primary care. The OAT ECHO provides virtual didactic trainings and provider-to-provider consultations on implementing comprehensive substance use disorder services at health centers.
HRSA BPHC	BPHC partnered with NCHPH to provide training and technical assistance and to develop a hepatitis B and hepatitis C toolkit for health centers providing primary care services to residents of public housing.
HRSA HAB	HRSA's Ryan White HIV/AIDS Program-funded entities tested people with HIV and HIV/viral hepatitis co-infection for mental and substance use disorders, and, if diagnosed, referred them for appropriate mental health and/or substance use disorder treatment. Ryan White HIV/AIDS Program funds were used to support those services.
HUD	HUD's Office of Special Needs Assistance Programs deploy technical assistance providers that provide guidance and support for homeless assistance providers and continuums of care impacted by communicable disease outbreaks, including outbreaks involving viral hepatitis. One key component of the technical assistance engagements is facilitating partnerships among homeless assistance providers, public health departments, and health care providers to improve access to and quality of care and treatment for persons experiencing homelessness who are infected with viral hepatitis.
HHS/OASH/OIDP	In 2017, OIDP received approval to develop and launch the Hepatitis C Medicaid Affinity Group. Building on a successful HIV Health Improvement Medicaid Affinity Group as well as other related efforts, OIDP convened a committee of federal experts to design and launch the Hepatitis C Medicaid Affinity Group with an aim of improving hepatitis C outcomes among people enrolled in state Medicaid programs. This two-year evaluation project includes one year of state participation in calls and meetings and a second year for gathering data to measure the effects of the affinity group on hepatitis C outcomes among Medicaid enrollees. The federal group developed and disseminated an "Expression of Interest Form" to state health departments and Medicaid programs to invite volunteer states to develop state-based teams. To apply, these teams of health department and Medicaid staff were asked to identify hepatitis C improvement goals and jointly submit the form. Nine states were selected to participate in the first year of the project.
SAMHSA/CSAT/ CSAP/CMHS	SAMHSA/CSAP MAI programs fund 127 grantees to improve access to care and treatment services for persons infected with viral hepatitis. Grantees provide hepatitis testing and counseling for high risk racial/ethnic minority populations. Participants who test positive for hepatitis were referred and/or linked to care and treatment services through established partnerships. CSAP's MAI grantees aim to increase hepatitis testing and counseling by 15 percent each year over the five-year grant cycle. In FY 2017, CSAP MAI programs tested 8,514 participants. Recipients were allowed to use up to 5 percent of their award for these activities. The total amount available for these activities in FY 2017 was $1,811,863.
VA/SCS/HIV, Hepatitis, and Related Conditions Programs	VA has continued to support regional Hepatic Innovation Teams (HITs). These HITs bring together field providers and system redesign experts to develop and disseminate strong practices in HCV care that increase access to HCV care and treatment, contribute to building high-performing networks, and engagement for VA employees. As of the end of CY 2017, VA had treated 102,443 Veterans with chronic hepatitis C enrolled in VA care, with cure rates over 95 percent.

Strategy 2.4: Improve viral hepatitis treatment among persons with HIV

Agency	Activity
FDA	The FDA Center for Drug Evaluation and Research approved updated labeling for Epclusa (sofosbuvir 400mg/velpatasvir 100mg), a once-daily single tablet regimen for the treatment of adults with chronic hepatitis C virus (HCV) infection, to include use in patients co-infected with HIV. Epclusa received regulatory approval for the treatment of adults with genotype 1–6 chronic HCV infection without cirrhosis or with compensated cirrhosis, or with decompensated cirrhosis in combination with ribavirin, in the United States on June 28, 2016.
HRSA BPHC	P4C was a three-year HRSA and CDC demonstration project funded through the Secretary's Minority AIDS Initiative Fund and the Health Center Program. The goals of the P4C Demonstration Project were to build sustainable partnerships among HRSA-funded health centers and CDC-funded state health departments to support expanded HIV service delivery in communities highly affected by HIV, especially among racial and ethnic minorities. The P4C also supported HIV integration into primary care, which has served as a foundation for the provision of hepatitis C care. Twenty-two health centers in Florida, Maryland, Massachusetts, and New York participated in the P4C Demonstration Project and collaborated with health departments in these states.
NIH	NIDA supported the Project HOPE-HCV study, which uses a hospital-based HIV cohort as a research platform for a randomized clinical trial assessing the effectiveness of a Care Facilitation intervention in moving HIV/HCV co-infected substance users along the HCV care continuum. Linkage to care is defined as receipt of clinical evaluation/treatment for HCV infection. Secondary objectives are to assess: (1) relative success at each step in the cascade, (2) engagement in substance use treatment and HIV care, and (3) HIV viral suppression. Completion was expected by mid-2018.
RRNP	On August 15, 2017, the Region II RRC co-facilitated a training with COPE Health as part of their HEP C University educational series at Saint Michael's Medical Center in Newark, New Jersey. The training addressed HIV and hepatitis C co-infections and the implementation of the goals of the National HIV/AIDS Strategy and the National Viral Hepatitis Action Plan by the community advisory board of the Peter Ho Memorial Clinic.

Strategy 2.5: Ensure that people who inject drugs have access to viral hepatitis care and evidence-based treatment services

Agency	Activity
SAMHSA/CSAT/ CSAP/CMHS	The SAMHSA/CMHS MAI-CoC grant program provided hepatitis prevention services to individuals who inject opioids and other drugs through supplemental funding under the Minority HIV/AIDS Fund for Advancing Prevention and Care Services (APCS) in At-Risk Urban Communities. Eleven grantees expanded partnerships to include syringe services programs to increase access to prevention and treatment for hepatitis, HIV, and mental health disorders. Among APCS in FY 2017, of 219 positive for hepatitis C and 2 for hepatitis B, 215 were linked or referred to care (182 referred, and 33 linked to care). For the three-year period through FY 2017, for 666 who received positive tests for hepatitis C, and 2 for hepatitis B, 664 were linked or referred to medical care (530 were referred, and 134 were linked). Note: The data for APCS is considered a subset of the overall MAI-CoC data, as reported in other items. MAI-CoC is a braided grant program including SAMHSA's Centers for Substance Abuse Treatment, Prevention and Mental Health Services with braided funding, including data collection.

Strategy 2.7: Monitor provision and impact of viral hepatitis care and treatment services

Agency	Activity
CDC	CDC funded the National Association of Community Health Centers (NACHC) to monitor HCV screening, care, and curative treatment in populations served by community health centers. In early 2017, NACHC selected five grantees to serve as pilot sites for testing and monitoring of performance indicators in their data systems. On September 6, 2017, CDC's viral hepatitis program hosted a reverse site visit in Atlanta, where site representatives presented their results. The group discussed next steps to standardize the model for use across multiple health center networks and electronic health record systems. This discussion will help inform the understanding of the HCV cure cascade in populations that have a high burden of HCV and are typically un/underinsured, medically underserved, and underrepresented in traditional data sources.

Strategy 2.8: Advance research to enhance identification, care, treatment, and cure for persons infected with viral hepatitis

Agency	Activity
FDA	FDA's Center for Devices and Radiological Health, Division of Microbiology Devices, approved the following new instrument platforms for serological HCV and HBV assays: Cobas 810 immunoassay analyzer (Roche Diagnostics Corp.), Alinity i Analyzer (Abbott Laboratories), and Atellica IM analyzer (Siemens Healthcare Diagnostics). The use of the Aptima HCV and HBV Quant Dx Assay on the Panther System with the attachment of the Panther Fusion Module (Hologic Inc.) was also approved.
FDA	FDA's Center for Devices and Radiological Health, Division of Microbiology Devices, continues to engage in discussions with various stakeholders through the HBV Forum (Forum for Collaborative Research) and professional societies to promote the development of new diagnostic devices for the evaluation of endpoints for novel HBV therapy evaluation.
NIH	NIDA supported an FOA on HIV/HCV Co-Infections in Substance Abusers. The purpose of this initiative is to fill gaps in the understanding of (1) the impact of addiction on HIV, HIV/HCV co-infection associated disease progression, (2) the pathogenic interactions between HIV and hepatitis C virus, (3) hepatic and non-hepatic co-morbidities associated with HIV/HCV co-infections in people with substance use disorders, and (4) the effectiveness of interferon-free direct acting antiviral drug regimens to treat HIV/HCV co-infections in people with substance use disorders.
NIH	NCI, NIAID, and NIAAA supported funding opportunities on HIV and Hepatitis B Co-Infection: Advancing HBV Functional Cure Through Clinical Research. View the announcement and the study. The purpose of these FOAs is to fill scientific gaps needed to (1) improve HBV treatment strategies by furthering understanding of unique challenges impacting HBV and HIV co-infected hosts, and (2) advance the discovery and development of novel HBV interventions that are safe and achieve eradication of HBsAg in HIV and HBV co-infected individuals. NCI, NIAID, and NIAAA also supported a funding opportunity on HIV and hepatitis B co-infection: In Vitro and Animal Model Studies on HBV/HIV Co-Infection (PA-17-280 and PA-17-281). The purpose of these FOAs is to: (1) stimulate and accelerate development of novel in vitro and small animal models of HBV/HIV co-infection to accelerate drug discovery/drug development in HBV/HIV co-infection, and (2) stimulate and accelerate a better understanding of the immunopathogenic interactions between HBV and HIV.

Agency	Activity
NIH	Intramural researchers at NIAID, NIDDK, NCI, and the NIH Clinical Center are conducting translational research studies on the molecular mechanisms involved in the pathogenesis of acute and chronic liver disease (with a focus on viral cirrhosis and hepatocellular carcinoma [HCC]) aimed at investigating the role of hepatitis viruses in liver carcinogenesis. Other ongoing studies include elucidating the role of host and viral factors in hepatitis virus infections, identifying new diagnostic and prognostic biomarkers for HCC, and using large patient cohorts to validate previously discovered predictive markers for the progression of hepatitis C to cirrhosis. NIAID is conducting translational research using next-generation and whole genome sequencing to study the oncogenic role of hepatitis viruses in hepatocarcinogenesis as well as to identify novel biomarkers for the early detection of HCC.
NIH	The NIDDK's HBRN is a collaborative agreement that consists of 13 medical sites throughout the United States and Canada that, at the time of this report, had enrolled approximately 2,500 adults and 500 children in a study of the long-term clinical course, pathogenesis, and management of chronic hepatitis B. The Network includes a Data Coordinating Center, an Immunology Core, a Virology Core, and a sample Repository that, at the time of this report, contained more than 200,000 specimens of DNA and serial serum samples from the participants. The Network has initiated three trials of antiviral therapy of chronic hepatitis B (two in adults and one in children), two of which have been completed. The clinical endpoint in these is the loss of HBsAg, a functional "cure" of the chronic infection. The Network also is engaged in many ancillary studies focusing on the pathogenesis of chronic hepatitis B and its complications. The study includes CDC participation. The Network was synergized in 2014 with the addition of a separate ancillary study to include a cohort of patients with HIV-HBV co-infection. The NIDDK Intramural Research Program has also conducted ongoing research to develop model systems for the development of new drugs to treat chronic hepatitis B and C.

Goal 3: Reduce Viral Hepatitis Health Disparities

Strategy 3.1: Decrease health disparities by partnering with and educating priority populations and their communities about viral hepatitis and the benefits of available prevention, care, and treatment

Agency	Activity
CDC	CDC continued to provide funding to three projects (Viral Hepatitis Networking, Capacity Building, and Training (CDC-RFA- PS16-1608) to support projects to increase the identification of people with chronic hepatitis B and hepatitis C infection by (1) leading and growing a national coalition to address the public health challenge of chronic viral hepatitis through training and technical assistance to conduct culturally competent outreach, extending the reach of CDC's national campaigns, and enhancing testing and linkage to care in high-risk communities, and (2) developing up-to-date, comprehensive web-based, hepatitis materials, resources, and trainings for health professionals.
HRSA HAB	HRSA's Jurisdictional Approach to Curing Hepatitis C among People of Color Living with HIV, funded through the 2016 Secretary's Minority AIDS Initiative Fund, awarded three RWHAP Part A recipients (New York City, Hartford, and Philadelphia), and two RWHAP Part B recipients (Louisiana and North Carolina) through the National Alliance of State and Territorial AIDS Directors for a three-year project intending to improve jurisdiction-level HCV screening, care, and treatment systems, identify existing barriers to care (for both patients and providers), increase the capacity of HCV state and local surveillance systems, and to better define the HCV care continuum in the RWHAP. HRSA's Curing Hepatitis C among People of Color Living with HIV, funded through the 2017 Secretary's Minority AIDS Initiative Fund, awarded two academic centers for a three-year project intending to improve care for people with HIV through the development of comprehensive jurisdiction-level HCV screening, care, and treatment systems and the enhancement of state and local health department surveillance systems to increase capacity to monitor acute and chronic co-infections of HIV and HCV. Additionally, this project aims to improve coordination with SAMHSA-funded substance use disorder treatment providers to deliver mental health and substance use disorder treatment support to achieve treatment completion, prevent HCV infection, and prevent re-infection.
IHS	The IHS system (I/T/U) serves a priority population. Partnering with tribal health boards, epicenters, and other regional organizations, IHS is helping educate primarily its clinicians as well as community members on the prevalence and disease progression of HCV, and strong benefits of the newest generation of treatment with DAAs. Myths addressed to overcome barriers to linkage to care include competing medical priorities, and DAA cost or access.
NIH	The NIH Centers for AIDS Research (CFAR) Program, co-funded by 11 NIH ICs, was created to foster high quality, multidisciplinary HIV research by increasing collaborations within an institution in a synergistic and cost-effective manner. CFAR sites have fiscal and scientific flexibility to address scientific priorities based on the Center's needs utilizing Cores and Scientific Working Groups. The CFAR Program awarded competitive supplements to CFAR sites in 2017 addressing opioid injection and its infectious disease consequences in non-urban areas of the United States.
RRNP	On May 6, 2017, the Region V RRC participated in EqualityCon in Springfield, Illinois, a program of Equality Illinois that was co-sponsored by the RRNP. The event sought to bring together the state's LGBTQ community and allies, progressive advocates, civic leaders, and community groups to train and share insights on how to make Illinois and the nation more just and equal. Springfield Mayor James O. Langfelder gave welcome remarks. Region V was part of the "Health Care Justice" lunch plenary with overview remarks on the impact of HIV/AIDS, NHAS, and viral hepatitis. The vice president of policy at the AIDS Foundation of Chicago presented "ACA and LGBTQ Illinoisans," and Eduardo Alvarado, chief of the Illinois Department of Public Health's HIV/AIDS Section, presented "Getting to Zero, an AIDS-Free Generation." Of note was Mr. Alvarado's report that 100 individuals in Illinois have been cured of hepatitis C. In addition, Region V participated in the workshops "Organizing with Religious Leaders Against License to Discriminate Bills Panel Discussion," "Queering Violence: Conversations About

Agency	Activity
	Intimate Partner Violence, Sexual Violence, and Trauma," and "LGBT Inequality and Health Outcomes." A total of 127 people participated in EqualityCon. The Region V RRC gave remarks that provided an overview of the RRNP, impact of HIV/AIDS, NHAS, and viral hepatitis at the Chicago Black Gay Men's Caucus's Love Fest on July 1, 2017. The annual event targets the African American MSM and LGBTQ community. Over 500 individuals participated in a day of education, entertainment, and health promotion; 19 participants took advantage of HIV/HCV and other related health screenings, with no positives identified.
RRNP	Region IX hosted SF Hep B Free, a San Francisco-wide campaign to reduce the prevalence of hepatitis B, with an emphasis on prevention in the high-risk AAPI and immigrant populations. SF Hep B Free discussed the greatest barriers facing those groups in San Francisco, as well as specific needs for improving programming and services within the agency. Region IX agreed to assist in creating relationships with agencies that can provide free hepatitis B screenings at community events as well as to identify someone to spearhead viral hepatitis policy efforts for the San Francisco Cancer Initiative (SFCAN). Through these efforts, Region IX hopes to continue to foster relationships with community agencies and to promote access to a myriad of free screenings to promote overall health and access to care.
SAMHSA/CSAT/ CSAP/CMHS	The SAMHSA/CMHS HIV/AIDS and Mental Health Training and Resource Center, MAI-CoC technical assistance support, delivered a 1.5-hour training of trainers to psychologists, with the American Psychological Association. Seventy-four people participated in an interactive online session, "Navigating HIV and Hepatitis C Treatment with Clients Seeking Mental Health Services," which was presented by David J. Martin, Ph.D., an independent consultant in Washington, D.C., and a moderator. The session was led by the Center for Mental Health Services.
SAMHSA/CSAT/ CSAP/CMHS	The 2017 SAMHSA/CMHS MAI-COC grantee meeting, "Bringing HIV and Hepatitis Prevention Care and Services to Life in MAI-CoC," featured a one-hour panel on grantee vaccination programs for 72 grantee participants. The panel session was called "HIV-Related Primary Care and Hepatitis Services and Vaccination in Integrated and Co-Located Services within Behavioral Health Care and Prevention." Moderated by Lisa Kaplowitz, M.D., it featured grantees from community programs in Baltimore, MD, Atlanta, GA, and New Haven, CT. A 45-minute roundtable followed to provide for a more detailed exploration of the topic. A breakout session featured a community organization in Tucson, AZ.
SAMHSA/CSAT/ CSAP/CMHS	The SAMHSA/CSAP Minority AIDS Initiative program funds 127 grantees to decrease health disparities by partnering with and educating priority racial/ethnic minority populations (ages 13 to 24) and their communities about viral hepatitis and the benefits and availability of prevention, care, and treatment services. In addition, grantees provide direct education on hepatitis information, using culturally appropriate curriculums, fact sheets, webinars, and testimonials. Participants are evaluated on their attitudes, knowledge, behavior, and relationships – at baseline, exit, and follow-up – to ensure that information about hepatitis is attained. Participants are also provided with information on how to access prevention and treatment services in their communities. Recipients were allowed to use up to 30 percent of their award for these activities. The total amount available for these activities in FY 2017 was $10,871,179.
VA/SCS/HIV, Hepatitis and Related Conditions Programs	VA has continued the Viral Hepatitis Pulse space and Veterans Integrated Services Network HIT space (VA's internal blog), and added a new Advanced Liver Disease space. Across the three groups in 2017, VA published 41 blog posts and more than 90 additional materials and resources.

Strategy 3.2: Improve access to care and the delivery of culturally competent and linguistically appropriate viral hepatitis prevention and care services

Agency	Activity
HRSA BPHC	The HBV ECHO was launched in January 2017. Health centers currently participate in HBV ECHO by presenting patient cases of pregnant women with chronic HBV infection to HBV specialists; sharing strategies for managing at-risk women and children; and participating in discussions with leading HBV experts. The goal of HBV ECHO is to provide technical assistance to health centers in reducing mother-to-child transmission of HBV using the Project ECHO model.
HRSA HAB	HRSA's Ryan White HIV/AIDS Program-funded clinical providers screen, link, and treat people with HIV who are co-infected with HBV and HCV, in accordance with the national guidelines.
HRSA HAB	Throughout 2017, HRSA-funded AIDS Education and Training Centers continued to provide clinical training and clinical consultation on HBV and HCV for co-infected people with HIV, including P4C co-infection webinars. HRSA-funded AIDS Education and Training Centers launched an evidence-based online curriculum for health care providers and trainers of health care providers to increase their knowledge on HIV and HCV co-infection among people of color.
IHS	IHS works closely with tribal and urban Indian health care clinics to provide culturally competent care to American Indian/Alaska Native people. Clinicians are generally well-attuned to cultural considerations and community constraints, such as long distances to referrals and the stigma surrounding an HCV diagnosis in small rural communities.
HHS/OS/OMH/DPO	Through the State Partnership Initiative to Address Health Disparities grant program, OMH provides support to the Mississippi Department of Health to implement the Test to Protect Family and Self: A Hepatitis B Project in the Vietnamese communities of Harrison, Hancock, and Jackson counties in Mississippi. The project focuses on increasing the proportion of persons who have been tested for the hepatitis B virus (HBV) within these minority communities experiencing health disparities. The project goal is to implement system-level, evidence-based strategies to address hepatitis B in the Vietnamese populations of the Mississippi Gulf Coast, targeting Harrison, Hancock, and Jackson counties.
HHS/OS/OMH/DPO	OMH developed and implemented the Empowered Communities for a Healthier Nation initiative, which seeks to reduce significant health disparities impacting racial and ethnic minorities or disadvantaged populations through evidence-based strategies with the greatest potential for impact. The program is intended to serve residents in communities disproportionately affected by the opioid epidemic, childhood and adolescent obesity, and serious mental illness. Seven grant awards support projects focused on opioid use disorder that include screening/testing/referral to care for HIV and hepatitis.
SAMHSA/CSAT/CSAP/CMHS	Regardless of a client's ability to pay, SAMHSA/CSAT MAI-funded TCE-HIV programs provide hepatitis screening, linkages to care, and education. Many of TCE-HIV programs are staffed with bilingual staff, as are medical institutions to which clients are referred for care. Cultural competency for specific target populations is also offered through technical assistance to ensure that proper delivery of medical treatment, education, and prevention occurs for all clients. TCE-HIV grantees were able to take advantage of the SAMHSA/ATTC Knowledge Network to access the Hepatitis C Public Health Detailing Kit that supports the use of public health detailing to increase health care provider awareness and use of HCV screening, diagnosis, and follow-up treatment. They also could use the HepVu website that visualizes complex hepatitis C infection estimates by state to support hepatitis education, advocacy, and program planning.

Strategy 3.3: Monitor viral hepatitis-associated health disparities in transmission, disease, and deaths

Agency	Activity
CDC	CDC continued to provide funding to the Alaska Native Tribal Health Consortium (*Natural History and Prevention of Viral Hepatitis Among Alaska Natives* (CDC-RFA-PS-13-001)). This cooperative agreement supports efforts to improve the health of Alaska Native persons disproportionately affected by hepatitis, including researching viral hepatitis outcomes and effectiveness. The project has two principal aims: (1) to improve efforts to prevent hepatitis A and hepatitis B through vaccination and (2) to study interventions to reduce illness and deaths among people living with hepatitis B and hepatitis C.
HRSA HAB	HRSA funded a contract to study HCV treatment models among HIV/HCV co-infected Ryan White HIV/AIDS Program clients to identify system, provider, and patient-level barriers to addressing HCV among persons with HIV in primary care settings.
IHS	IHS, in collaboration with CDC, has conducted a national analysis of HCV burden. The analysis has been submitted for publication. In brief, it found approximately 30,000 unique patients with an HCV diagnosis code from 2005 to 2015, with significant differences by geographical region and sex. Additional monitoring of disparities in disease and death have generally been via CDC national surveillance statistics, which monitor all American Indian/Alaska Native patients nationwide, not just the 2.6 million served by I/T/U facilities. These data show significant disparities in HCV disease and death in AI/AN populations. IHS internal data generally do not track new diagnoses (rather than incidence) and do not document mortality.

Strategy 3.4: Advance basic, clinical, translational, and implementation research to improve understanding of and response to viral hepatitis health disparities

Agency	Activity
NIH	NCI, NIMHD, and NIAAA joined in sponsoring two initiatives on Funding Opportunity Mechanisms of Disparities in Chronic Liver Diseases and Cancer (https://grants.nih.gov/grants/guide/pa-files/PAR-17-150.html and https://grants.nih.gov/grants/guide/pa-files/PAR-17-151.html). The purpose of these initiatives is to support multidisciplinary innovative exploratory and developmental research to understand the underlying etiologic factors and the mechanisms that result in disparities in chronic liver diseases and cancer in the United States.
NIH	NIDA is working on developing a study on ways to eliminate HCV in a high-risk community in Kentucky, with pilot funding to the University of Kentucky to develop community-based components, including but not limited to syringe exchange, drug treatment, linkages with criminal justice, access to medical care, and hepatitis C testing and treatment.
NIH	NIDA, together with the CDC's National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, and SAMHSA's Center for Substance Abuse Treatment, and Appalachian Regional Commission supported a FOA on HIV, HCV, and Related Comorbidities in Rural Communities Affected by Opioid Injection Drug Epidemics in the United States: Building Systems for Prevention, Treatment and Control. This FOA will support biphasic (i.e., two-stage, multi-method) research projects that inform community response and promote comprehensive, integrated approaches to preventing HIV and hepatitis C virus (HCV) infection, along with associated comorbidities such as HBV infection and STDs, among PWID in rural U.S. communities. Opioid injection and its consequences (e.g., HIV, HCV, HBV, STDs, and overdose) are the primary focuses here. These projects should yield evidence of the effectiveness of community response models and best practices in responding to opioid injection epidemics that can be implemented by public health systems in similar rural communities in the United States.

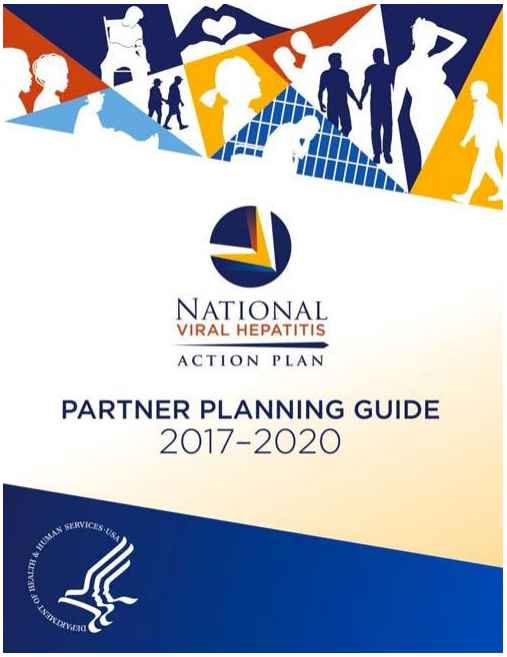
Agency	Activity
NIH	Researchers at the NIH's NIAID and NIDDK have initiated several clinical research studies of oral regimens of therapy for acute and chronic hepatitis C. These studies are focused on high-risk patients in vulnerable populations who are usually not included in industry-supported studies that lead to drug licensure. These populations include the uninsured, recent emigrants from Africa and Asia, racial/ethnic minority populations, persons with advanced liver disease and cirrhosis, and persons co-infected with HIV. Special groups include patients with genotypes 2, 3 and 4, patients with drug-resistant HCV mutations, and patients who are co-infected with HIV (SWIFT-C, A5327, A5329, A5335, STOP-CO). The NIAID STOP-CO trial is evaluating treatment of HCV in HIV-infected people undergoing or in need of a liver transplant.

Goal 4: Coordinate, Monitor, and Report on Implementation of Viral Hepatitis Activities

Strategy 4.1: Increase coordination of viral hepatitis programs across the federal government and among federal agencies; state, territorial, tribal, and local governments; as well as non-governmental stakeholders from all sectors of society

Agency	Activity
CDC	CDC developed novel computational algorithms for probabilistic detection of HCV transmission and for distinguishing recent and long-term HCV infections. Work continues to convert these algorithms into GHOST tools. GHOST is a cloud-based, public health research tool that helps state and local health departments more quickly detect and fight the spread of HCV. From November 30 to December 2, CDC's viral hepatitis program and the Association of Public Health Laboratories hosted a three-day laboratory training workshop on GHOST to provide hands-on experience with procedures using next-generation sequencing technology and additional interactive training on using quality control and transmission detection bioinformatics tools.
CDC	In late March 2017, the National Academies of Science, Engineering, and Medicine released a consensus report, *A National Strategy for the Elimination of Hepatitis B and C*. Co-sponsored by CDC, the report proposes numeric targets to eliminate the public health threat of hepatitis B and hepatitis C in the United States by 2030 and suggests a plan of action to achieve the elimination goals. After extensive research, this report offers recommendations that resonate with many of CDC's highest priorities for viral hepatitis prevention. The report underscores the important public health role of testing, case management, and linkage to care for certain populations; the central role of public health surveillance; and recommendations for addressing viral hepatitis in certain populations, including people who inject drugs and those incarcerated.
CDC	CDC released *Progress Toward Viral Hepatitis Elimination in the United States, 2017* (https://www.cdc.gov/hepatitis/policy/PDFs/NationalProgressReport.pdf), an inaugural report highlighting the nation's progress toward reducing the burden of HAV, HBV, HCV infections. The report reflects progress toward accomplishing the goals outlined in the 2017–2020 HHS National Viral Hepatitis Action Plan and the Division of Viral Hepatitis Strategic Plan, 2016–2020 (https://www.cdc.gov/hepatitis/pdfs/DVH-StrategicPlan2016-2020.pdf) and suggests specific strategies for overcoming existing challenges to eliminating viral hepatitis. The report also complements a March 2017 report released by the U.S. National Academies of Sciences, Engineering, and Medicine titled *A National Strategy for the Elimination of Hepatitis B and C*, which highlights the actions necessary to eliminate hepatitis B and hepatitis C as public health threats in the United States by 2030.
FDA	FDA's Center for Drug Evaluation and Research, Division of Antiviral Products, is engaged in discussions with various stakeholders through the HBV Forum (Forum for Collaborative Research) and professional societies to enhance development of novel therapies for treatment of chronic hepatitis B virus infection.

Agency	Activity
HRSA BPHC	BPHC provided an update on hepatitis C activities and coordinated efforts with other federal partners on a panel presentation, along with other representatives of HHS at the 2017 Synchronicity Conference. The Synchronicity Conference is a national conference organized by HealthHIV that focuses on HIV and hepatitis C. Participants include clinicians, service providers, advocates, and others working in health centers, AIDS services organizations, community-based organizations, and health departments.
HUD	HUD has begun collaborating with HHS partners to explore ways to more rapidly respond to communities impacted by hepatitis outbreaks that primarily involve individuals experiencing homelessness.
IHS	IHS has worked with several agencies on policy, analysis, program implementation, and training/education of HCV including with CDC, VA, and OMH. These collaborations include in-depth analysis of HCV data, comparison of clinical resources and needs, access to and costs of HCV drugs, and culturally appropriate trainings of clinicians and community health leaders.
IHS	IHS has collaborated with an HCV working group of internal and external experts on HCV in Indian Country that are regularly consulted for recommendations on screening and treatment in accordance with national guidelines and the National Viral Hepatitis Action Plan. A first set of key recommendations is pending review, while additional recommendations remain under review pending further discussion or data.
NIH	NIDA, with co-funding from CDC, SAMHSA, and the Appalachian Regional Commission, has funded awards in two stages to conduct: (1) planning grants and (2) to be considered for three-year awards to test and evaluate approaches to implement evidence-based interventions to prevention of opioid injection, overdose, and HIV, HCV, and STIs. The first-stage grants were awarded in 2017 in New England, West Virginia, Kentucky, North Carolina, Ohio, Illinois, Wisconsin, and Oregon.
HHS/OASH/OIDP	In March 2017, OIDP released the National Viral Hepatitis Action Plan, 2017–2020 (Action Plan), our battle plan for putting the nation on a path toward elimination of hepatitis B and hepatitis C. Beginning in March 2016, OIDP worked with the federal VHIG to review progress toward the 2020 goals of the Action Plan, identify effective strategies to prioritize, and develop the updated Action Plan. The Action Plan includes four overarching goals covering both hepatitis B and hepatitis C, identifies specific indicators of progress and annual targets, describes recommended activities, and acknowledges the need for a diverse range of stakeholders to join in a variety of viral hepatitis activities if the United States is to achieve the 2020 goals and ultimately fulfill its vision of elimination. During webinars with nonfederal viral hepatitis stakeholders as well as within the VHIG, OIDP was encouraged to be bold and to set the vision for the nation toward viral hepatitis elimination.

Agency	Activity
HHS/OASH/OIDP	In 2017, OIDP developed the Partner Planning Guide, a companion document to the National Viral Hepatitis Action Plan, 2017–2020. The Partner Planning Guide is designed for use by individuals, groups, and organizations that are interested in or already conducting strategic planning efforts for HBV and/or HCV. The Guide can help agencies and organizations to assess existing activities and plan new ones that align with the Action Plan and contribute toward reaching national viral hepatitis goals. It contains a step-by-step process to support groups working in the field to consider local needs and effective strategies to address viral hepatitis and expand engagement across more federal and nonfederal stakeholders. Nonfederal and community stakeholders bring unique expertise and invaluable knowledge of their communities and constituents. These stakeholders can leverage community capital to help develop tailored, responsive plans to viral hepatitis. In order to achieve the goals of the National Viral Hepatitis Action Plan 2017–2020, it is necessary to encourage and foster local and regional efforts and work to share expertise and effective strategies across all sectors to support new partnerships and innovation. 
HHS/OASH/OIDP	OIDP chaired and convened the federal VHIG and monitored implementation of the National Viral Hepatitis Action Plan. The cross-agency work group is made up of more than 20 federal partners focused on implementing the Action Plan. Throughout FY 2017, the VHIG met regularly to finalize the National Viral Hepatitis Action Plan, 2017–2020, monitor progress on addressing viral hepatitis, strategize about overcoming obstacles, identify and capitalize on new opportunities, and address emerging needs. With support from OIDP, VHIG members developed and finalized annual progress reports, which included an assessment of federal action during the 2014–2016 implementation period, progress toward the 2020 goals, key accomplishments by federal partners independently and in collaboration with nonfederal stakeholders, and a list of federally developed and/or supported reports and peer-reviewed journal articles that contribute to the field of viral hepatitis.
RRNP	The Region VIII RRC invited the viral hepatitis prevention coordinators from each of the Region's six states to contribute to bimonthly calls to update counterparts on recent developments, such as funding cuts and syringe access, in conjunction with mental health efforts.
SAMHSA/CSAT/ CSAP/CMHS	SAMHSA/CSAT has been on the forefront of the battle against the spread and infection of hepatitis B and hepatitis C with other federal agencies and has made hepatitis treatment and education a priority. SAMHSA/CSAT has joined forces with other stakeholders and federal agencies to address the battle against viral hepatitis through participation in the federal VHIG. SAMHSA and HRSA have opened dialogue on the potential for bi-directional collaboration between SAMHSA TCE-HIV grantees and HRSA-17-047, Curing Hepatitis C Among People of Color Living with HIV grantees for substance use disorder and HVC treatment and care.
HRSA HAB	HRSA's Curing Hepatitis C Among People of Color Living with HIV, funded through the 2017 Secretary's Minority AIDS Initiative fund, awarded two academic centers for a three-year project intending to improve care for PWH through the development of comprehensive jurisdiction-level HCV screening, care, and treatment systems and the enhancement of state and local health department surveillance systems to increase capacity to monitor acute and chronic co-infections of HIV and HCV. Additionally, this project aims to improve coordination with SAMHSA-funded substance use disorder treatment

Agency	Activity
	providers to deliver mental health and substance use disorder treatment support to achieve treatment completion, prevent HCV infection, and prevent re-infection.

Strategy 4.2: Strengthen timely availability and use of data

Agency	Activity
FDA	FDA's Center for Drug Evaluation and Research, Division of Antiviral Products, in collaborative partnership with the Hepatitis C Therapeutic Registry and Research Network (HCV-TARGET), is engaged in using real-world clinical data and evidence for antivirals approved for the treatment of chronic HCV infection.
IHS	IHS is making HCV screening easier to check in real-time at the facility level by front-level clinicians. iCare, a patient management tool, has had an HCV package added for local usage.
SAMHSA/CSAT/ CSAP/CMHS	SAMHSA/CSAT/Program Management Branch data personnel support the MAI-funded TCE-HIV and MAI-CoC programs with continued resources for timely and informed decision-making as it is critical for the successful implementation of these programs. Hepatitis reporting additionally supports forecasting and procurement planning and management of these programs. Our data personnel can run ad hoc up-to-date reports on testing, linkages, etc., upon request.
VA/SCS/HIV, Hepatitis, and Related Conditions Programs	VA has supported a national collaborative to refine and disseminate a national Hepatitis C Dashboard. This working group was established in 2016 with the aim of providing guidance and information-sharing, using electronic tools for screening and treatment metrics in the management of hepatitis C in VA. The Dashboard allows for rapid identification of patients in the birth cohort, rapid identification of patients with known or suspected chronic HCV for evaluation and referral, tracking of patients on direct acting antiviral therapy, electronic scorecard for facilities to track local progress towards goals, and sorting patients by clinic assignment enabling primary care teams to participate in efforts for testing and referral for care.

Strategy 4.3: Encourage development of improved mechanisms to monitor and report on progress toward achieving national viral hepatitis goals

Agency	Activity
FDA	A multidisciplinary working group in FDA’s Center for Drug Evaluation and Research worked to produce a guidance document for the development of drugs to treat chronic hepatitis B, which was released in 2018.
IHS	IHS has collaborated with an HCV working group of internal and external experts on HCV in Indian Country that are regularly consulted for recommendations on screening and treatment in accordance with national guidelines and the National Viral Hepatitis Action Plan. A first set of key recommendations is pending review, while additional recommendations remain under review pending further discussion or data.

Strategy 4.4: Regularly report on progress toward achieving the goals of the National Viral Hepatitis Action Plan

Agency	Activity
FDA	FDA/Division of Anti-Viral Products utilizes listserv email notifications to enhance communication and for timely dissemination of information about new drug approvals and labeling revisions for previously approved drug products.

Agency	Activity
SAMHSA/CSAT/CSAP/CMHS	SAMHSA/CSAT/CSAP/CMHS reports upon request with real-time data on hepatitis B and hepatitis C events. For grantees collecting HIV and hepatitis information, the "SAMHSA Rapid HIV/Hepatitis Testing (RHHT) Clinical Information Form" is used to gather HIV/hepatitis testing information. Grantees electronically upload the information into the SAMHSA Performance Accountability and Reporting System (SPARS). Collected information includes: Site Characteristics, Demographics, Risk Behavior, Rapid HIV Testing Results, Rapid Hepatitis B&C Testing Results, and Confirmatory Testing of HEP B&C Test.
SAMHSA/CSAT/CSAP/CMHS	SAMHSA/SPARS regularly consolidates reporting through cross-center HIV evaluation, data, and activities for SAMHSA's MAI-CoC and TCE-HIV programs.
VA/SCS/HIV, Hepatitis, and Related Conditions Programs	VA regularly reports on progress toward achieving the goals of the National Viral Hepatitis Action Plan.

APPENDIX 3: 2017 VIRAL HEPATITIS-RELATED PUBLICATIONS, ARTICLES, AND REPORTS

Each year, federal partners make important contributions to addressing gaps in our understanding of the prevention, care, and treatment of viral hepatitis through peer-reviewed journal articles and other technical documents. These publications help to advance efforts to develop and implement evidence-based programs, clinical services, and policies. The following viral hepatitis related publications, articles, or reports were published in FY 2017.

ACTION PLAN GOAL 1: Prevent New Viral Hepatitis Infections

He S, Li K, Lin B, et al. Development of an aryloxazole class of hepatitis C virus inhibitors targeting the entry stage of the viral replication cycle [published online July 13, 2017]. *J Med Chem.* 2017;60(14):6364-6384. doi:10.1021/acs.jmedchem.7b00561. https://www.ncbi.nlm.nih.gov/pubmed/28636348. Accessed July 24, 2018.

Zhang F, Sodroski C, Cha H, Li Q, Liang TJ. Infection of hepatocytes with HCV increases cell surface levels of heparan sulfate proteoglycans, uptake of cholesterol and lipoprotein, and virus entry by up-regulating SMAD6 and SMAD7 [published online September 30, 2016]. *Gastroenterology.* 2017;152(1):257-270.e7. doi:10.1053/j.gastro.2016.09.033. https://www.ncbi.nlm.nih.gov/pubmed/27693511. Accessed July 24, 2018.

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ACTION PLAN GOAL 2: Reduce Deaths and Improve the Health of People Living with Viral Hepatitis

Anderson ES, White DAE. Public health conditions for successful broad-scale integration of HIV and HCV screening in emergency departments. *Am J Public Health.* 2018;108(5):591-592. doi:10.2105/AJPH.2018.304364. https://www.ncbi.nlm.nih.gov/pubmed/29617599. Accessed July 24, 2018.

Bajaj JS, Ahluwalia V, Thacker LR, et al. Brain training with video games in covert hepatic encephalopathy [published online December 13, 2016]. *Am J Gastroenterol.* 2017;112(2):316-324. doi:10.1038/ajg.2016.544. https://www.ncbi.nlm.nih.gov/pubmed/27958279. Accessed July 24, 2018.

Bajaj JS, Fagan A, Sikaroodi M, et al. Liver transplant modulates gut microbial dysbiosis and cognitive function in cirrhosis. *Liver Transpl.* 2017;23(7):907-914. doi:10.1002/lt.24754. https://www.ncbi.nlm.nih.gov/pubmed/28240840. Accessed July 24, 2018.

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Balakrishnan M, Glover MT, Kanwal F. Hepatitis C and risk of nonhepatic malignancies [published online April 22, 2017]. *Clin Liver Dis.* 2017;21(3):543-554. doi:10.1016/j.cld.2017.03.009. https://www.ncbi.nlm.nih.gov/pubmed/28689592. Accessed July 24, 2018.

Bartlett SR, Grebely J, Eltahla AA, et al. Sequencing of hepatitis C virus for detection of resistance to direct-acting antiviral therapy: a systematic review. *Hepatol Commun*. 2017;1(5):379-390. doi:10.1002/hep4.1050. https://www.ncbi.nlm.nih.gov/pubmed/29404466. Accessed July 24, 2018.

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APPENDIX 4: ABBREVIATIONS

AAPI	Asian Americans and Pacific Islanders
AASLD	American Association for the Study of Liver Diseases
AETC	AIDS Education and Training Centers (HRSA)
AHRQ	Agency for Healthcare Research and Quality (HHS)
AIMS	Access Increases in Mental Health and Substance Abuse Services
APCS	Advancing Prevention and Care Services
ASO	AIDS services organizations
ATTC	Addiction Technology Transfer Center (SAMHSA)
BPHC	Bureau of Primary Health Care (HRSA)
CBER	Center for Biologics Evaluation and Research (HRSA)
CDC	Centers for Disease Control and Prevention (HHS)
CDRH	Center for Devices and Radiological Heath (FDA)
CFAR	Centers for AIDS Research (NIH)
CHW	Community health worker
CMHS	Center for Mental Health Services
CMS	Centers for Medicare & Medicaid Services (HHS)
CPD	Office of Community Planning and Development (HUD)
CSAP	Center for Substance Abuse Prevention (SAMHSA)
CSAT	Center for Substance Abuse Treatment (SAMHSA)
DAA	Direct-acting antiviral
DOJ	U.S. Department of Justice
DVH	Division of Viral Hepatitis (CDC)
ECHO	Extensions for Community Health Outcomes (HRSA)
EHR	Electronic health record
FBOP	Federal Bureau of Prisons (DOJ)
FDA	U.S. Food and Drug Administration (HHS)
FOA	Funding Opportunity Announcement
GHOST	Global Hepatitis Outbreak and Surveillance Technology
HAV	Hepatitis A virus
HBRN	Hepatitis B Research Network (NIH)
HBeAG	Hepatitis B e antigen
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus
HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus

HDV	Hepatitis D virus
HEV	Hepatitis E virus
HHS	U.S. Department of Health and Human Services
HIT	Health information technology
HITs	Hepatic Innovation Teams
HIV CBI	HIV Capacity Building Initiative
HOPE	National Committee on Heroin, Opioids and Pain Efforts (IHS)
HRSA	Health Resources and Services Administration (HHS)
HUD	U.S. Department of Housing and Urban Development
IDSA	Infectious Diseases Society of America
IHS	Indian Health Service (HHS)
IPT/TA	Intervention in-person training and technical assistance
LGBT	Lesbian, gay, bisexual, and transgender
MAI	Minority AIDS Initiative
MAI-CoC	Minority AIDS Initiative Continuum of Care (SAMHSA)
MAT	Medication-assisted treatment
MMWR	Morbidity and Mortality Weekly Report
MSI-CBO	Minority Serving Institutions in Partnership with Community-Based Organizations
MSM	Men who have sex with men
NAT	Nucleic acid test
NCHHSTP	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (CDC)
NCI	National Cancer Institute (NIH)
NCIRD	National Center for Immunization and Respiratory Diseases (CDC)
NHANES	National Health and Nutrition Examination Survey
NHIS	National Health Interview Survey
NHLBI	National Heart, Lung, and Blood Institute (NIH)
NIAAA	National Institute on Alcohol Abuse and Alcoholism (NIH)
NIAID	National Institute of Allergy and Infectious Diseases
NICHD	*Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NIH)
NIDA	National Institute on Drug Abuse (NIH)
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases (NIH)
NIH	National Institutes of Health (HHS)
NIMHD	National Institute on Minority Health and Health Disparities (NIH)
NVAC	National Vaccine Advisory Committee
NVPO	National Vaccine Program Office (HHS)
OASH	Office of the Assistant Secretary for Health (HHS)
OAT	Opioid Addiction Treatment (HRSA)
OCR	Office for Civil Rights (HHS)
OHAIDP	Office of HIV/AIDS and Infectious Disease Policy (HHS)

OIDP	Office of Infectious Disease and HIV/AIDS Policy (HHS), formerly OHAIDP
OMH	Office of Minority Health (HHS)
ONC	Office of the National Coordinator for Health Information Technology (HHS)
OPA	Office of Population Affairs (HHS)
OPDIV	Operational Division of the HHS, e.g. CDC, FDA
OSG	Office of the Surgeon General (HHS)
OTP	Opioid treatment program
OWH	Office on Women's Health (HHS)
P4C	Partnerships for Care (HRSA and CDC)
PHS	U.S. Public Health Service (HHS)
PLWH	People living with HIV
PMTC	Prevention of mother-to-child transmission
PVST	Post-vaccination serologic testing
PWH	People with HIV
PWID	People who inject drugs
QFP	Quality family planning
RHA	Regional Health Administrator (HHS)
RRC	Regional resource coordinator
RRNP	Regional Resource Network Program
RWHAP	Ryan White HIV/AIDS Program (HRSA)
SAMHSA	Substance Abuse and Mental Health Services Administration (HHS)
SPARS	SAMHSA Performance Accountability and Reporting System
SSP	Syringe services programs
STD	Sexually transmitted disease
STI	Sexually transmitted infection
SUD	Substance use disorder
TB	Tuberculosis
TCE	Targeted Capacity Expansion
TDF	Tenofovir disoproxil fumarate
USPSTF	U.S. Preventive Services Task Force
VA	U.S. Department of Veterans Affairs
VHA	Veterans Health Administration (VA)
VHIG	Viral Hepatitis Implementation Group
VHPC	State viral hepatitis prevention coordinator
VHSR	Viral Hepatitis Surveillance Report (HHS)
VISN	Veterans Integrated Services Network (VA)
VISN HIT	VISN Hepatitis C Innovation Team (VA)